

NOVEMBER 1956 3/-

**How You Can
Benefit from
OVERSEAS
TRADE FAIRS**

Page 86



**ELECTRONICS
IN THE OFFICE**

Progress Report, Page 97



**Workers' Veto Can
Increase Output**

Page 117

Business



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Special BUSINESS survey shows how to choose them, how to use them

John A. Ash 85

THESE EMPLOYEES TELL MANAGEMENT 'HOW'

Case-histories on suggestion schemes which really get results

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W. P. N. Edwards, C.B.E., (left), director of British Overseas Fairs Ltd., and D. A. Lamb, O.B.E., general manager, discuss the layout of the British Industrial pavilion for the 1958 Brussels International Fair. A special survey of the value of overseas trade fairs starts on page 85. *Colour photograph by John Searle Austin.*

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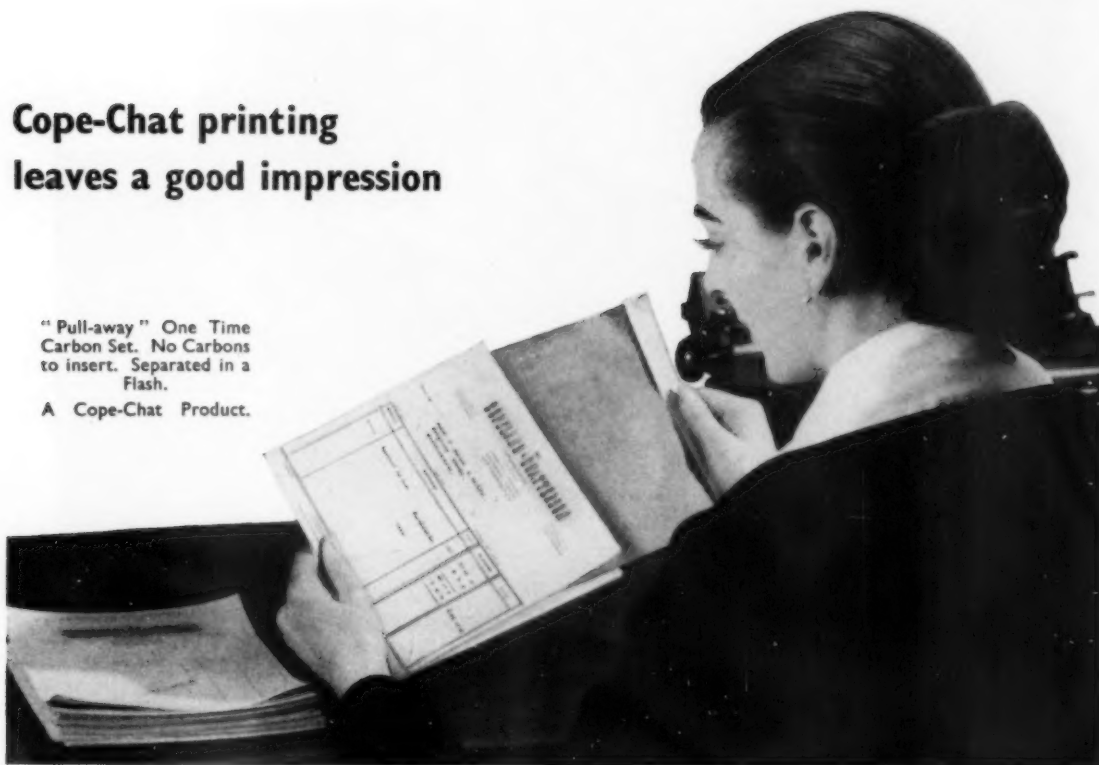
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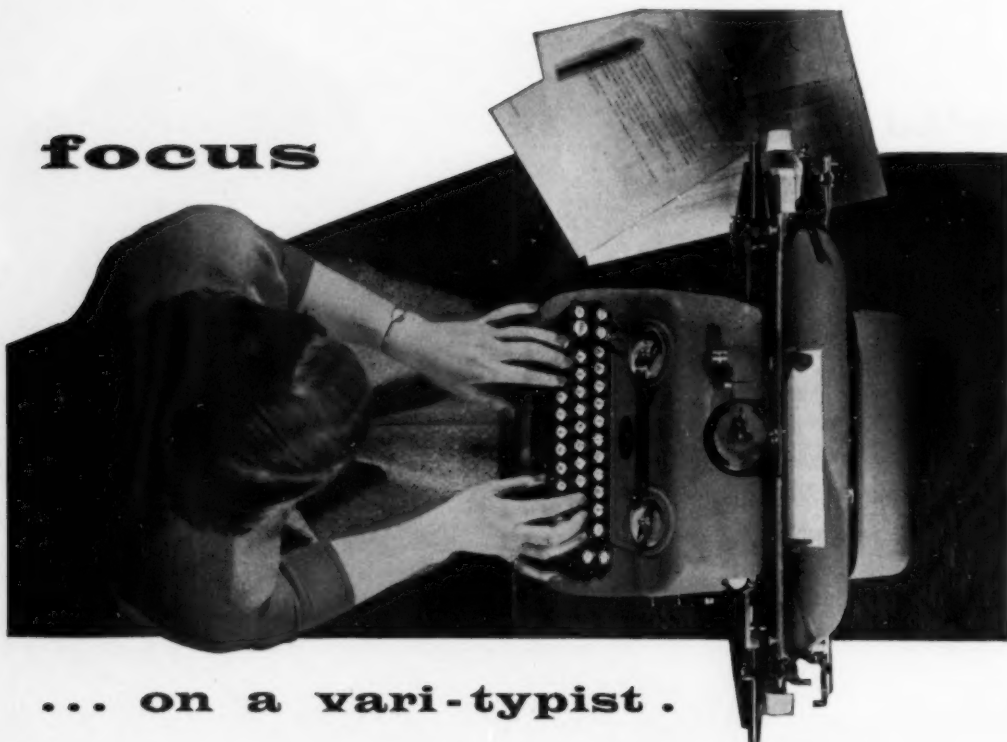
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NOVEMBER, 1956

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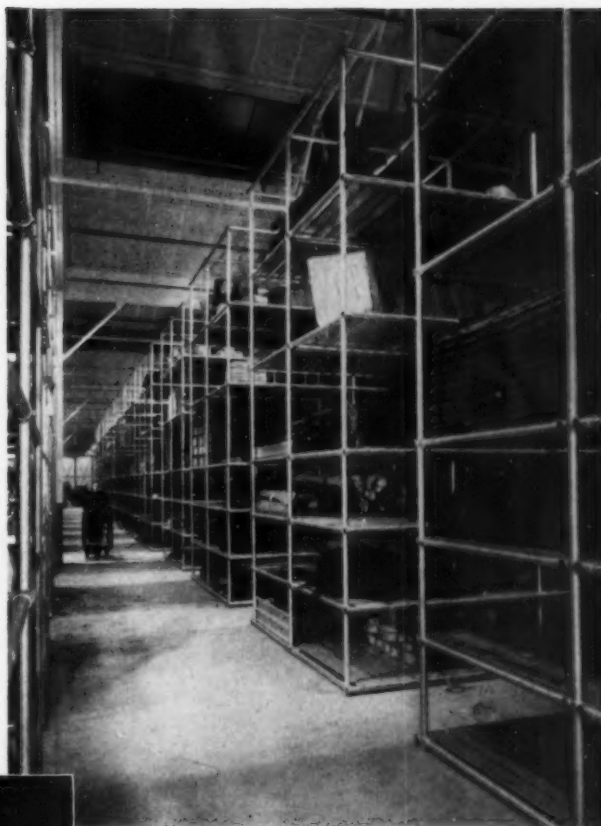
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another
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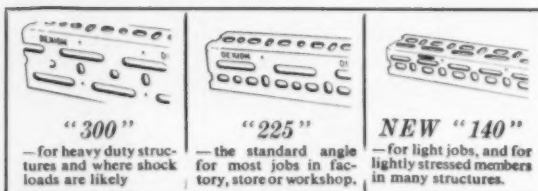
With a new, lighter, lower-priced slotted angle, and new self-supporting steel shelves in graded sizes, the Dexion system of construction has been extended to cover practically *all* racking needs—with even greater economy. The new shelving in itself can cut costs by as much as 20%.

With the range of slotted angles in the Dexion

system, you can easily and quickly build almost any item of equipment. Dexion just needs cutting and bolting, and the job's done! But for large storage installations, careful designing can save a lot of money. You are invited to make full use of Dexion's unique experience *at the planning stage*.

● NEW DEXION 140—light weight, low cost

Dexion 225 (2½" x 1½") is the popular industrial size for most jobs. Dexion 300 (3" x 1½") is the robust, heavy-duty angle. New Dexion 140 (1½" x 1½") slashes costs on the light jobs. All are available in rust-protected, stove-enamelled steel, or in aluminium alloy, and all can be used in combination. (For even lighter applications, there is also the new Dexion 112—half the size of 225.)

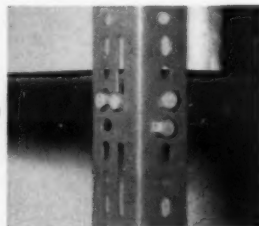


● NEW self-supporting, rigid shelves

NO BEARERS — A BIG SAVING

Dexion storage installations can be "tailored to fit" both the goods and the space—often, space otherwise wasted. The new Dexion shelves bolt direct to uprights; locking design gives built-in rigidity. Without bracing or bearers, the job is neater, quicker, cheaper. A unique feature: bolted support bars can increase load capacity of shelves wherever needed.

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● THE DEXION MAN has a trained eye for *cost-saving*

The Dexion representative is trained to find an efficient solution to *your* storage or equipment problem. His practical experience can help you save money, space, labour, with Dexion structures exactly fitting your needs, in factory, warehouse or office. As many customers have found, you may gain a lot by calling him in.



DEXION DESIGN SERVICE

Dexion is far easier to use than wood or angle iron—so most jobs present no difficulty. But where the installation is fairly big, or there are tricky features, careful design can mean substantial savings. The Dexion Design Service takes the worry off your hands. It is free to customers: don't hesitate to use it—preferably at an *early* stage of planning.

DEXION CONSTRUCTION SERVICE

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at lower cost



What's so special about DEXION?

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Dexion leads because this organization is concerned solely with slotted angle—giving you the best material to solve your problems at the lowest cost, with

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The demand is now world-wide; Dexion is manufactured in six countries; over 150 million feet are already in use, and 80 per cent of sales are repeat orders. This success is the surest proof that the Dexion system has, indeed, something special to offer every user.

At any time—but best at the planning stage—

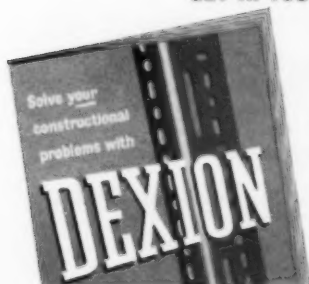
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DEXION

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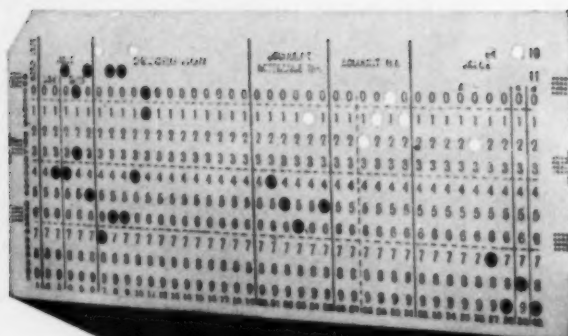


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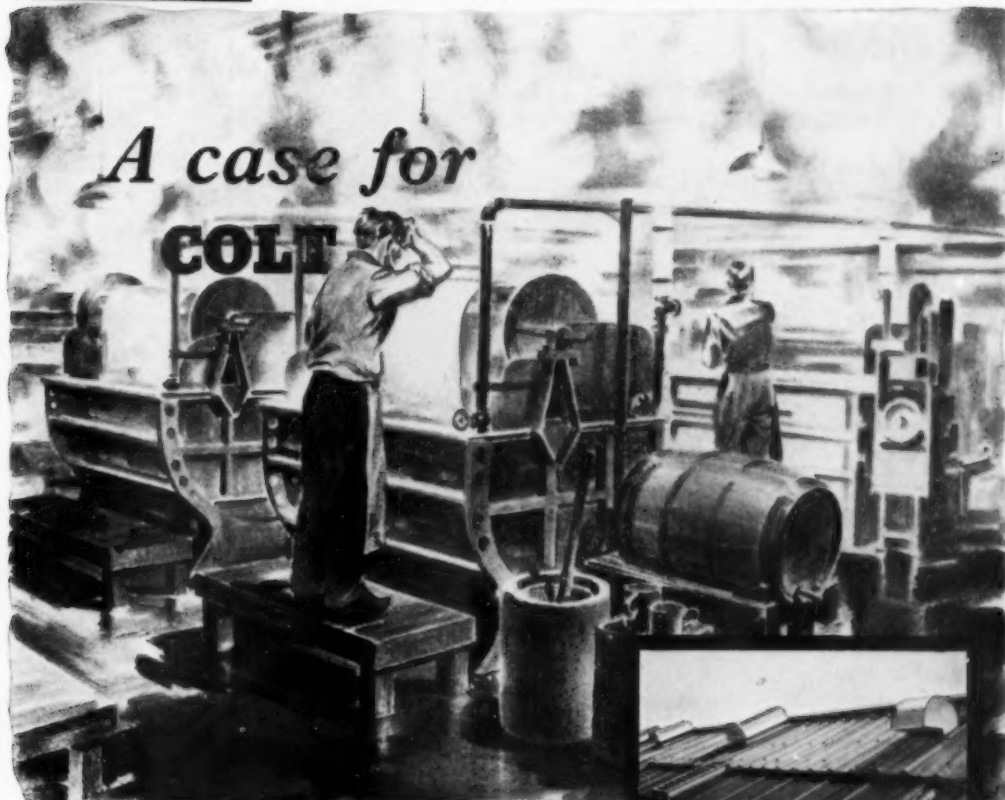
What does punched card equipment cost? Powers-Samas have matched their ranges of machines to the needs and budgets of the small, the medium and the large organisation.

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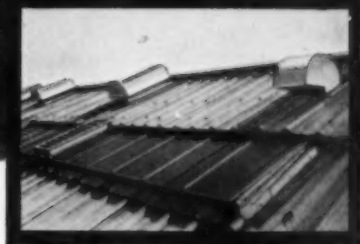
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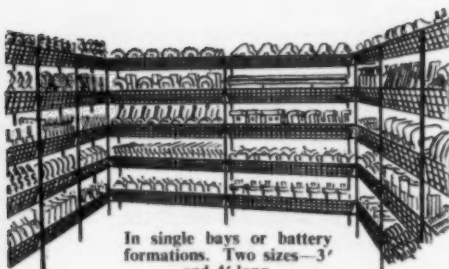
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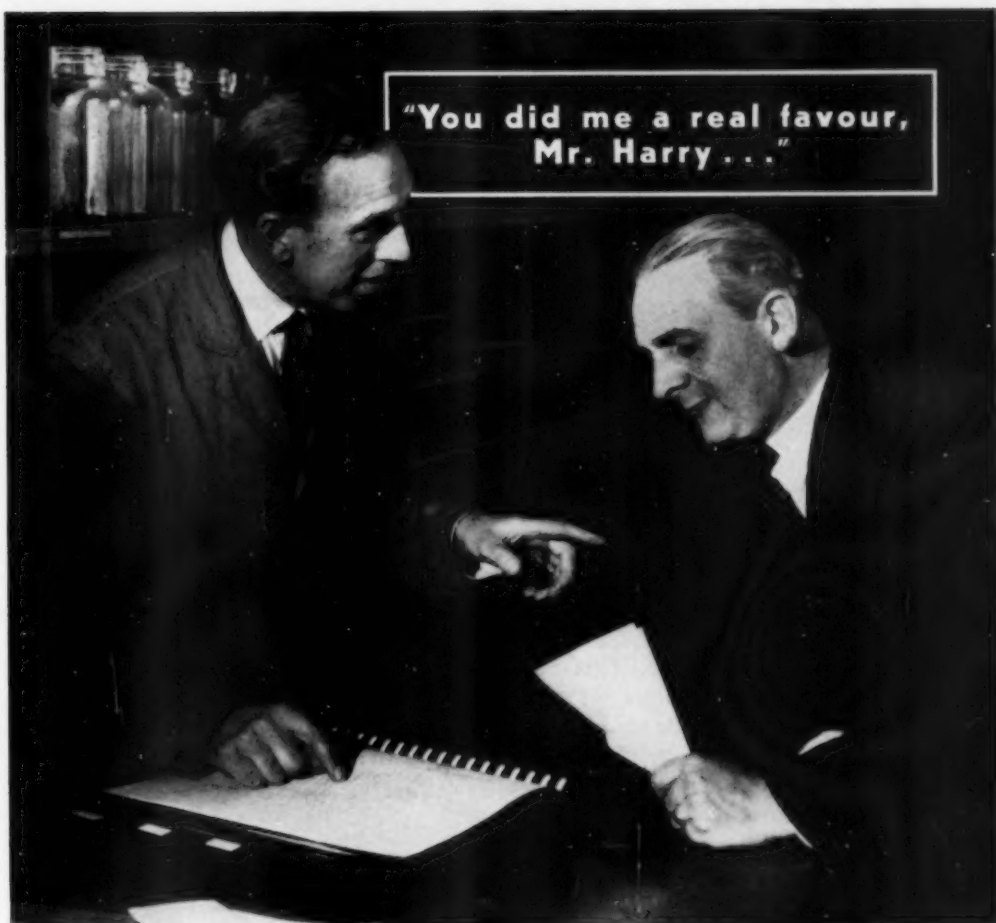
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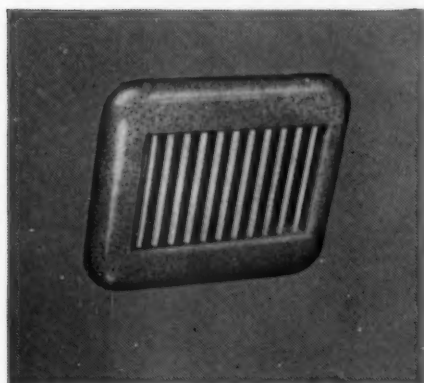
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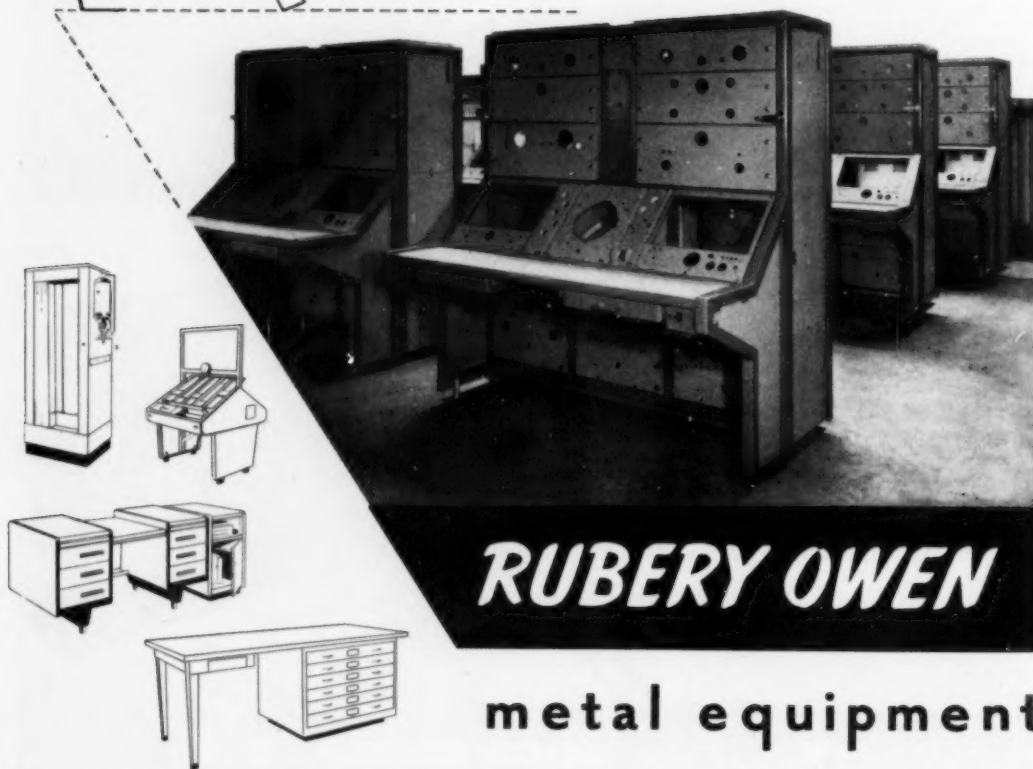




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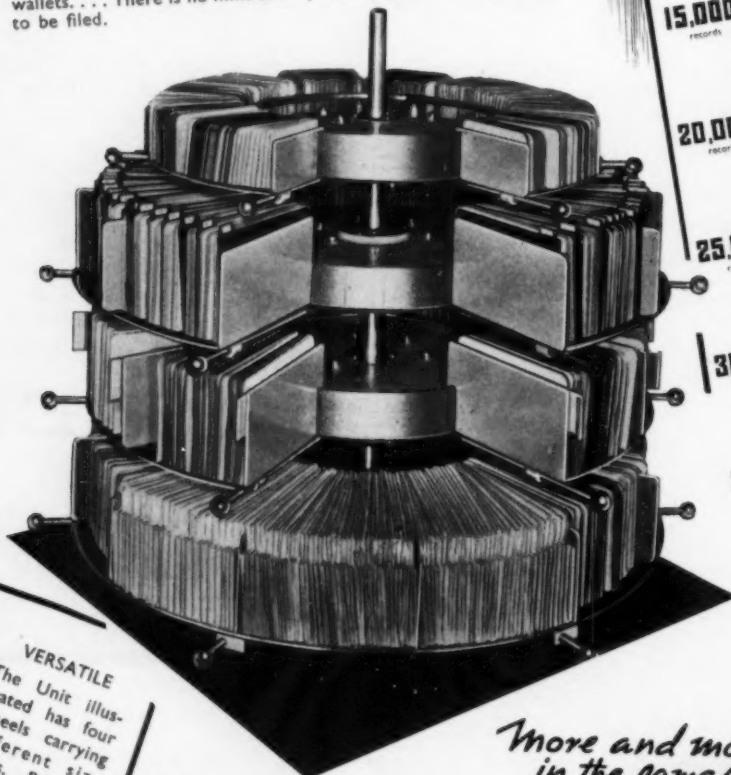
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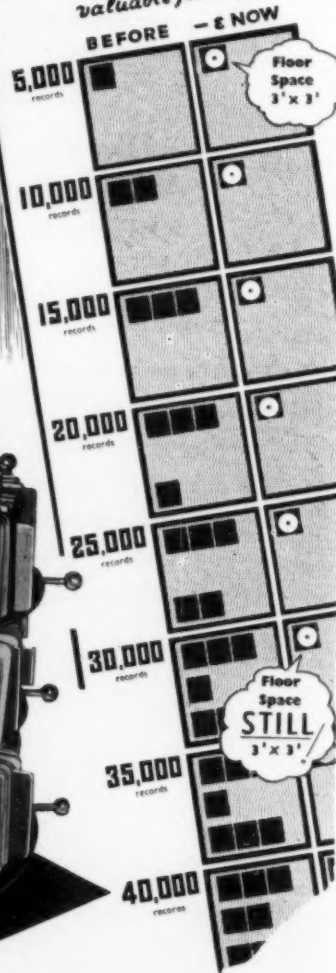
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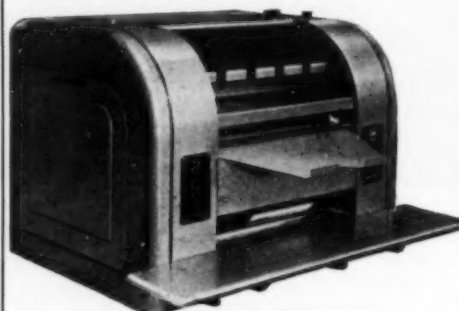
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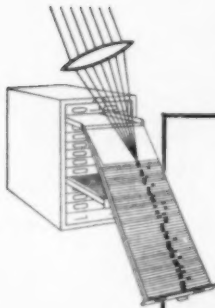
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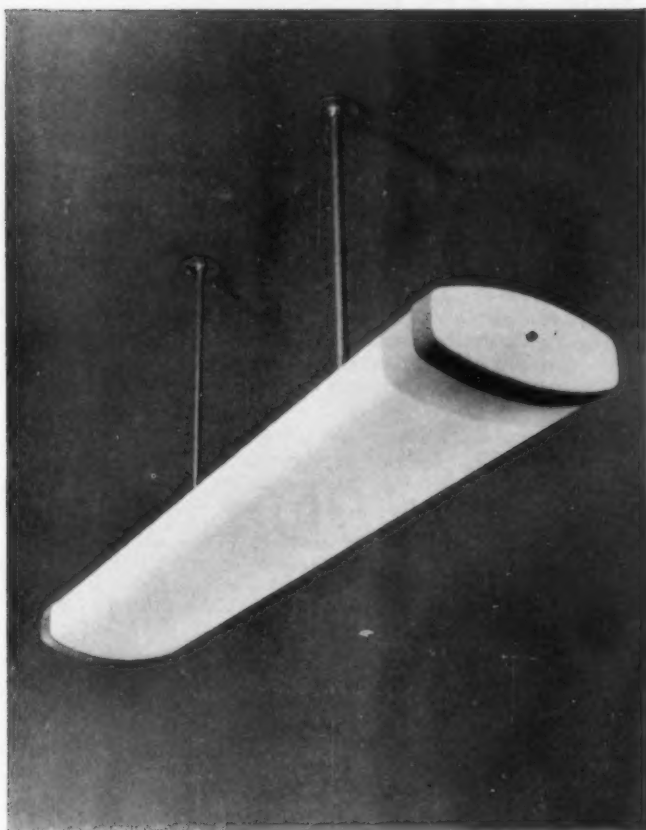
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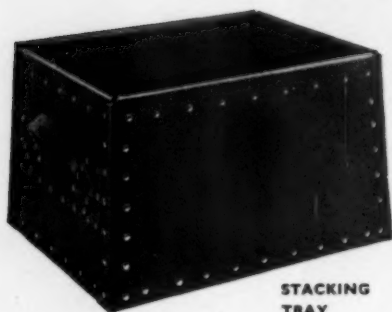
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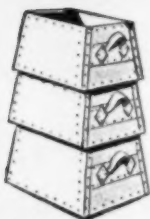
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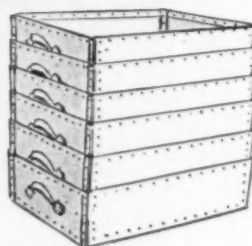
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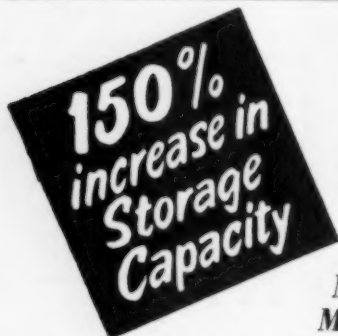
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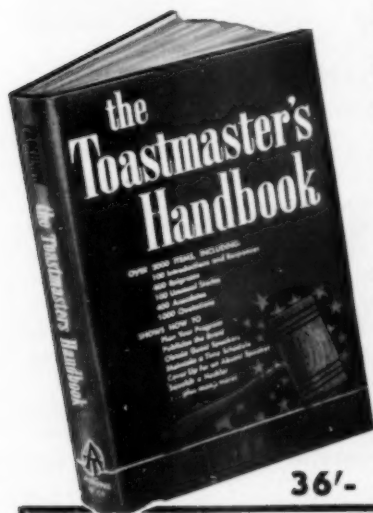
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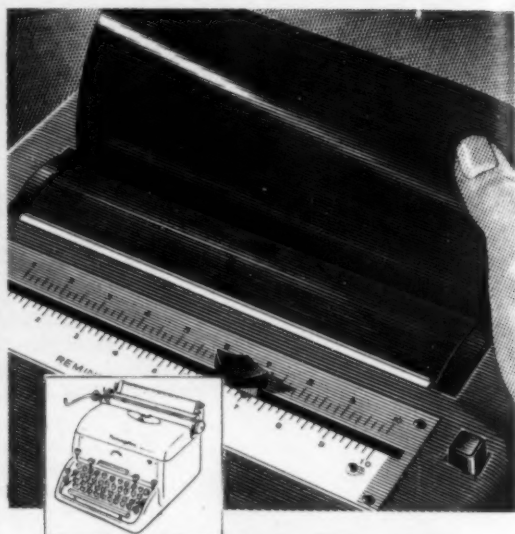
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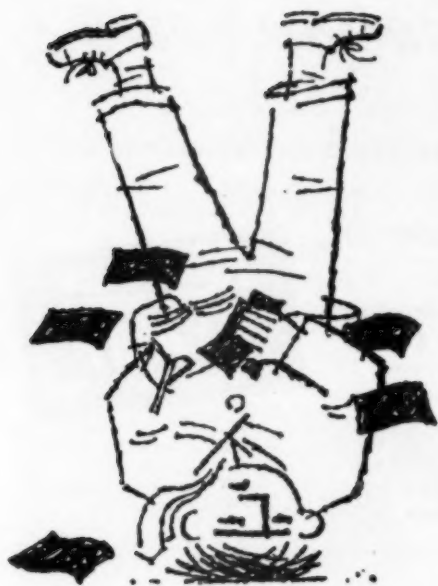
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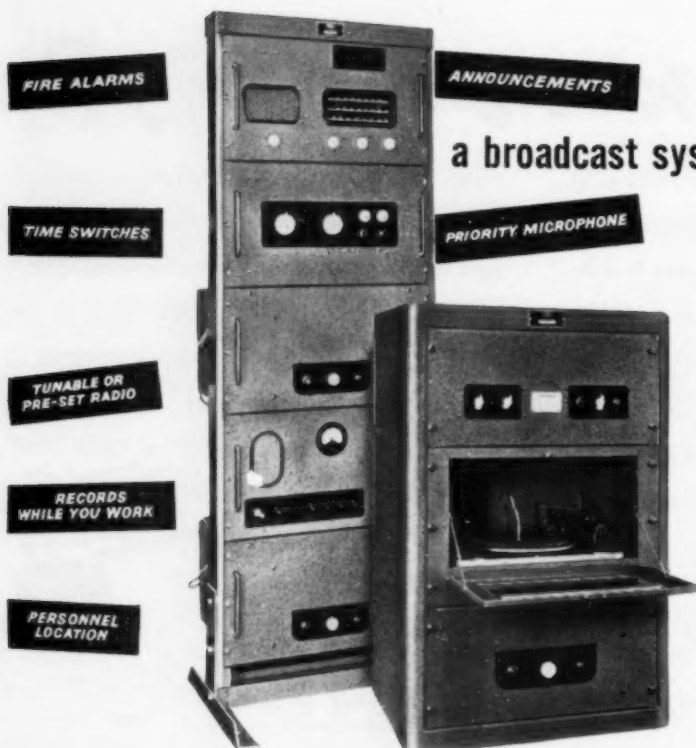
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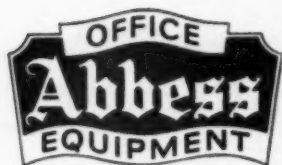
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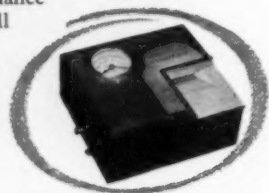
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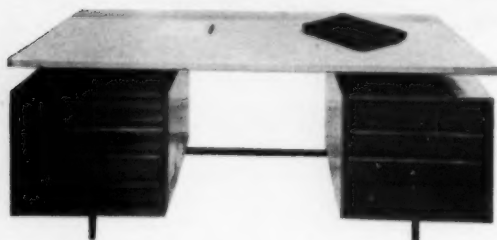


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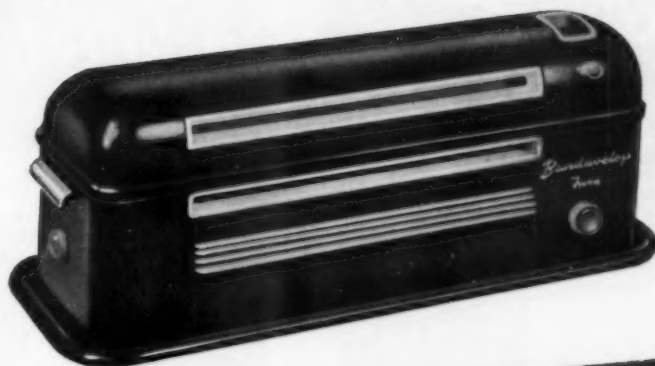
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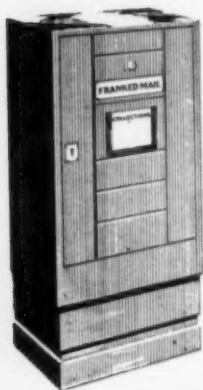
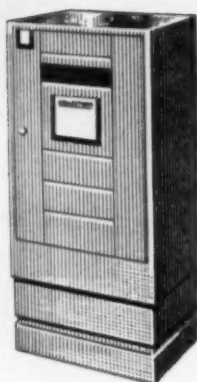
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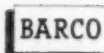


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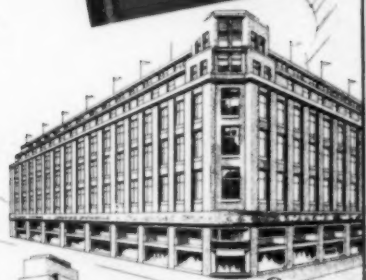
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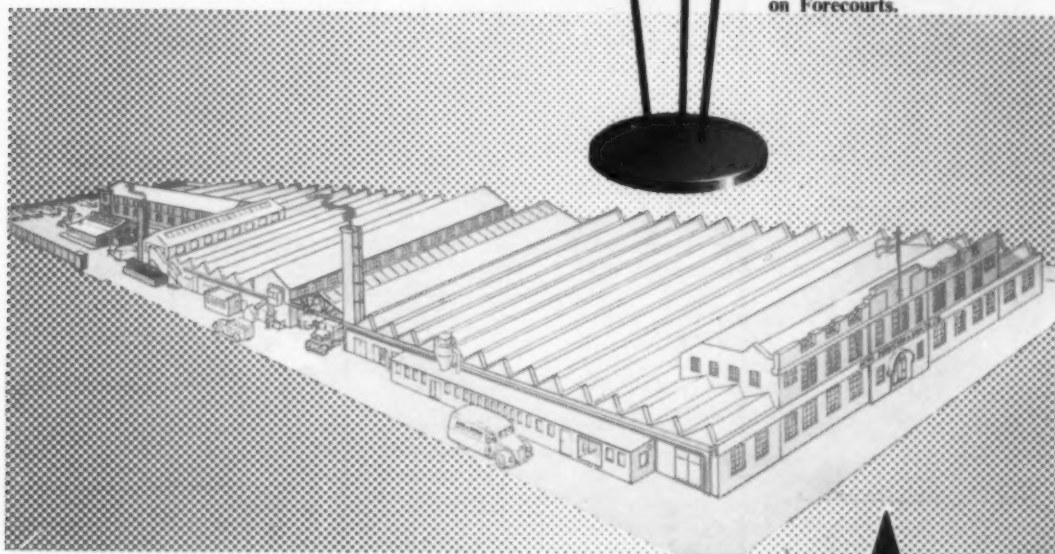


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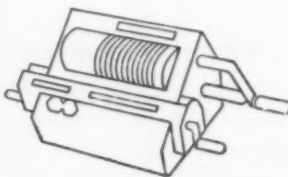
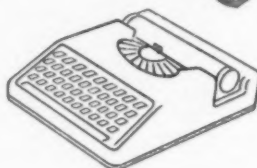
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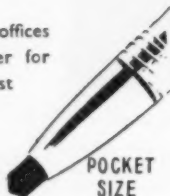
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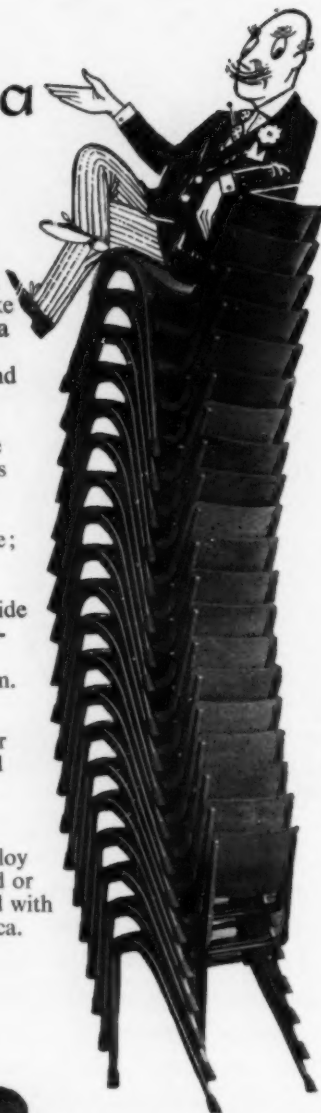
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EAGLE "CHEMI-SEALED"
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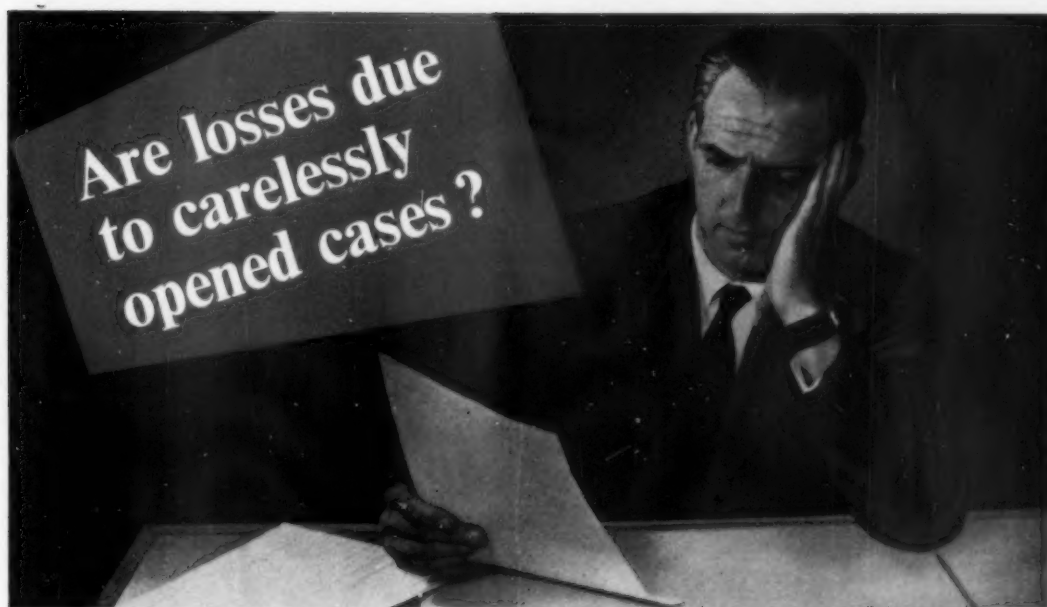
It's sound sense to use Mirado pencils for all business and personal writing. The points won't crumble or break under normal usage. For two reasons. The lead itself is of a fine, smooth and long-lasting quality, and the Eagle Patent Super-bonding process welds the lead and the wood casing into one inseparable unit, giving maximum resistance to breaks. Change to Mirado and watch your pencil costs decrease.

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Our Mileage Meter measures how much line a Mirado lead will make. On the revolving drum, the pencil makes a continuous and easily measured line. The wear of Mirado leads has been tested until every pencil will make a smooth black line over 35 miles long.



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*Put away
that Knife!*

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Illustrating the ease of opening Rippatape TearStrip containers produced for Empire Dairies Ltd. These new containers have been specifically designed to assist the trade to facilitate the easy breakdown of pats of butter into two separate units.

and use *Rippatape* **TEAR-STRIP CASES**

A new opening method for taped, glued or stitched-joint corrugated or fibreboard cases eliminating costly knife damage.

Rippatape is easily and inexpensively applied by the manufacturer to the inside of the container blank. The tear-strip action operates from a slot situated a short distance from the edge of the container blank. When the tab is lifted and a continuing pull exerted, 'Rippatape' cleanly severs its way through the wall of the case along a line determined by the placement of the tape.

Consider the many advantages of using Rippatape Tear-Strip Cases:

- REDUCES HANDLING AND LABOUR COSTS
- SPEEDS UP RE-STOCKING OF COUNTERS
- EASY AND SAFE TO OPEN
- EASY REMOVAL OF GOODS
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- RETAINS THE FULL STACK STRENGTH OF THE CASES

The trend is to ease and speed packaging . . . so take advantage of the many advantages offered by this modern Rippatape Tear-Strip opening method.

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Contact your case manufacturer without delay for further information.

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September

3. Pickwell Esq.,
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72 Coleman Street,
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Dear Mr. Bicknell,

Small: Ray,
Financial Times,
Columian Street,
London, E.C.2.

We were recently presented with a good illustration of the
top level advertising appeal of "The Financial Times", since it opened
for us a hitherto tightly closed door.

The Sales Department of one of our Divisions had tried in vain
to sell certain industrial concerns in their products. A
few weeks ago, however, we were able to see the buyer but on each occasion
the receptionist refused to see the buyer.

On the appearance of one of our
agents, however, the receptionist
said she had seen the
agent and asked for
him afterwards.

Mr. [redacted] We were receiving appeals from [redacted] level advertising agencies for an advertising campaign to interest a certain industrial concern in their representative tried several times to see the buyer but failed to progress beyond the receptionist.

However, the day following the appearance of one of our in "The Financial Times" a letter arrived from the [redacted] who had seen the advertisement in the products and asked for a reply by [redacted] Shortly afterwards a [redacted] fire are now regular customers.

We prefer to believe that [redacted] justifies our decision to [redacted] nearly this

interest in the "representative" trial of the
called to progress beyond the "representative" trial.

However, the day following the "representative" trial, the
advertisements in the "Financial Post" and the "Toronto Star" were
Managing Director of the "Financial Post" and the "Toronto Star" were
representative of the "representative" trial. The "representative" trial
substantial order was placed and the firm are now regular customers.

It is a familiar story with a moral, and it is itself justifies our decision
to advise the "representative" trial for the first time early this year.

Yours sincerely,
C. E. [Signature]
Publicity Office
known contacts to

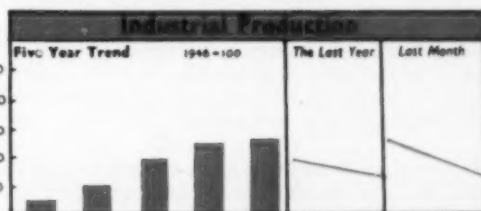
G. C. B. Andrew

SIDNEY HENSCHEL · ADVERTISEMENT DIRECTOR · 72 COLEMAN ST., LONDON, E.C.2.

STATE OF THE NATION

General business outlook steadily favourable • Production still sluggish but likely to gather pace • Job vacancies still excessive but declining
 Boom in America likely to help export markets. • Factory building and re-equipment boom is passing its peak • Retail sales holding up well and likely to go higher • Next round of wage increases may be smaller than the last • Government expenditure rising slightly • Retail prices steady
 Raw material prices rising slightly • Terms of trade favourable

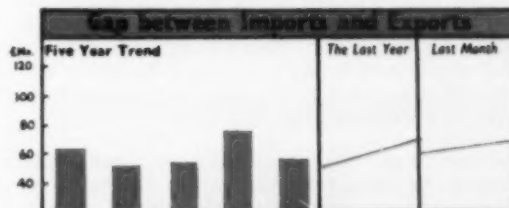
Industrial Production is still rather stagnant. During June to August this year, the average index was 127 (1948=100). This was only 2 points higher than a year earlier but 23 points higher than four years earlier. Provisional August, 1956, figure of 115.6, shows a decrease on 118 a year earlier.



Job Vacancies are still in excess of the number of Unemployed. But the excess is less than a year ago. During July to September, 1956, average unemployment (colour bars) was 251,000, an increase of 55,000 on a year earlier but a decline of 145,000 on same period of 1952. By contrast, during June to August, 1956, average number of vacancies (black bars) was 388,000, a decrease of 69,000 on a year earlier but an increase of 97,000 on same period of 1952.



Gap between Imports and Exports is not now a major worry. During July to September this year, average monthly gap was £56.2 million—an encouraging fall of £75.7 million a year earlier, and also less than the £60.2 million four years earlier. In September this year, gap was £63.7 million, which compares with £60.8 million in August and £51.0 a year earlier.



Gold and Dollar Reserves are holding steady. During July to September this year, average level was £834 million, which was less than the £875 million a year earlier but more than the £604 million four years earlier. Peak year was 1954. Between August and September this year reserves rose £18 million to £831 million, due to receipt of dollars from sale of Trinidad oil company.



THE CHARTS: Except where otherwise indicated, each bar chart depicts the average monthly value of a particular statistic during the most recent three months, and compares it with the same figure for each of the four preceding years. The earliest year in each case is shown on the extreme left. Under the heading "The Last Year," a straight-line graph depicts the latest month of a particular statistic and compares it with the same month a year earlier. And under the heading "Last Month," the most recent figure is compared with the one for the previous month. In both cases, the earlier figure is to the left and the later figure to the right.

MAIN ECONOMIC INFLUENCES on the STATE OF THE NATION

1. Trends in CAPITAL EXPENDITURE

Industrial Investment Plans are still tremendous, but beginning to decline. Bars in the accompanying chart show average quarterly expenditure for years 1952 to 1956. The 1956 average is expected to be about £466 million, an increase of 21 per cent on 1955 and an increase of 59 per cent on 1952. Provisionally, the Board of Trade survey shows that 1957 capital expenditure may be slightly lower than 1956. In the second quarter of this year, expenditure by manufacturing industry was 26 per cent higher than a year earlier. Shipping company expenditure was unchanged and other expenditure about 5 per cent up.

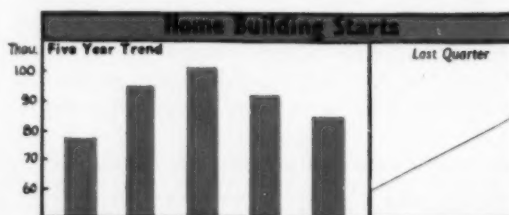
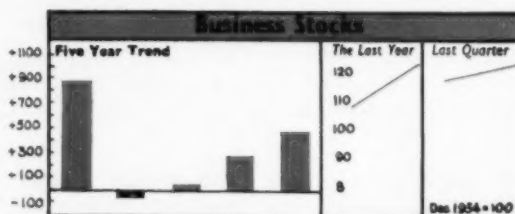
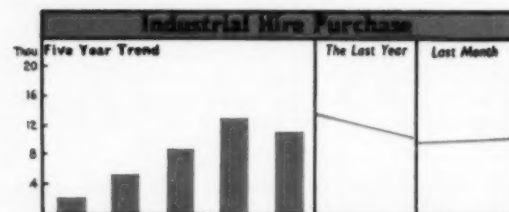
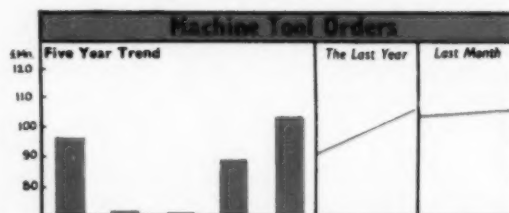
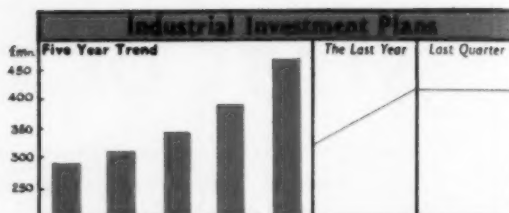
Factory Building Approvals are fairly steady when measured by area, but down in number. During third quarter of 1956, total area approved was 20.6 million sq. ft., which compares with 20.8 million a year earlier and only 8.7 million four years earlier. Number of approvals in third quarter this year was 570, a decline on 640 in second quarter, but area approved rose from 14.4 million sq. ft. to 20.6 million.

Machine Tool Orders have lately declined but are still high. Average volume of orders on hand during April to June, 1956, was £104.6 million, a considerable increase on £89.9 million a year earlier and also on £97.0 million four years earlier. In June, 1956, volume of orders on hand was £105.0 million—equivalent to 16 months' deliveries. But orders have declined from £9.6 million in February to £6.6 million in June.

Industrial Hire Purchase has shown a mixed response to the credit restrictions. The accompanying chart is based on figures collected by Hire Purchase Information. Average monthly H.P. contracts for new cars and commercial vehicles in July to August, 1956, was 10,800, a decline on 13,600 a year earlier but a great increase on 3,300 four years earlier. The Board of Trade index for H.P. financing of industrial plant and equipment rose from 83 to 85 between July and August this year. It was 123 last January.

Business Stocks have lately risen in manufacturing industry and fallen elsewhere. Bars in the chart show changes in value of stocks during the years 1951 to 1955. Graph lines show changes in the index of manufacturing stocks compiled by the Board of Trade. Manufacturing stocks index for the end of June, 1956, was 121 (1954=100), which compares with 117 at the end of March and 108 a year earlier. Non-manufacturing stocks index (December, 1954=100) was 107 last December, 97 in March this year and 94 in June.

Home Building Starts have declined somewhat. Permanent houses started in the second quarter of 1956 totalled 86,168 compared with 93,282 a year earlier and 78,600 four years earlier. Number under construction at June 30, 1956, was 287,221 or almost the same as a year earlier.



2. Trends in CONSUMER EXPENDITURE

Retail Sales are holding up well and likely to increase slightly. During June to August, 1956, the average index of retail sales was 149, which compares with 135 a year earlier and 113 four years earlier. Allowing for price increases, the volume of sales has grown slightly in the last year. In August this year, the index was 143, which compares with 153 for July and 129 for August last year.

Domestic Hire Purchase has grown a little recently, in spite of restrictions. The accompanying chart shows the trend of H.P. sales of used cars. Average monthly number of contracts during the period July to September, 1956, was 30,300—a large decrease on 38,200 a year earlier but much greater than the 9,700 four years ago. The Board of Trade index for H.P. sales of domestic equipment rose from 66 to 67 between July and August this year, but it was 69 last January.

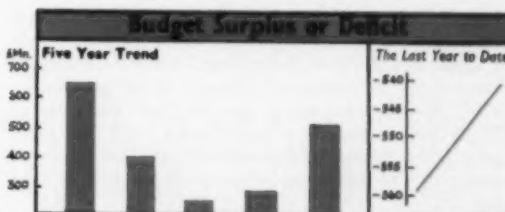
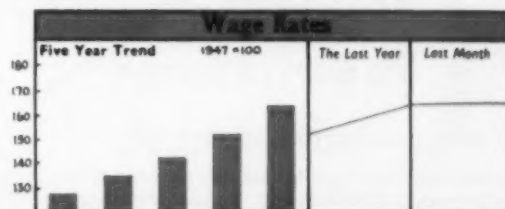
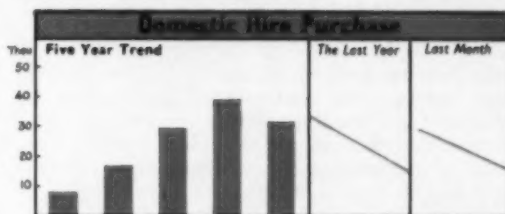
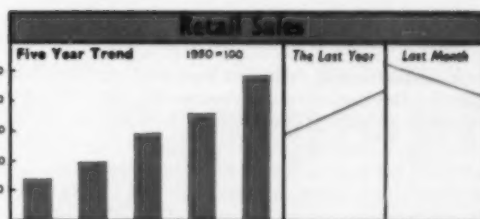
Weekly Wage Rates are now passing through their summer and autumn lull, and the next round of wage increases, in the New Year, may be smaller than the last. In the period June to August this year the average index of weekly wage rates was 164, which compares with 153 a year earlier and 129 four years earlier.

Personal Expenditure is barely keeping pace with price increases, and is not by itself a major inflationary factor. In the second quarter, it was £3,305 million, as compared with £3,122 million a year earlier and £2,596 million four years earlier. This represents an increase in spending of 6 per cent in the last year and 20 per cent in the last four years. But prices have risen similarly, so that real spending power has been fairly constant.

3. Trends in GOVERNMENT EXPENDITURE

Payments from the Exchequer are so far this year running about £230 million ahead of the same period last year. This is an increase of 11 per cent, or nearly double the increase in prices. Between 1951 and 1955, Government expenditure increased by 25 per cent and prices rose by 19 per cent, so that expenditure in real terms rose by 6 per cent. Expenditure in the current financial year is estimated to reach £4,683 million.

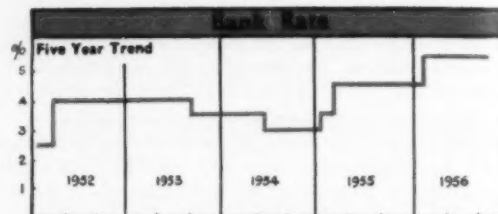
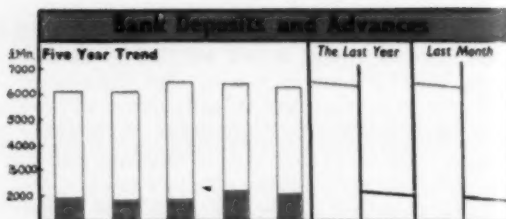
Budget Deficit so far this year is about £50 million less than at the same time last year. The accompanying bar chart shows the Budget surpluses in calendar years 1951 to 1955. These are the above-the-line surpluses. The graph line compares the current financial year with the previous one. This financial year's above-the-line surplus is expected to be £484 million.



4. Trends in MONETARY AND FINANCIAL POLICY

Bank Deposits and Advances have both recently fallen slightly. During July to September this year, the average level of bank deposits was £6,300 million. This was a slight decrease on £6,400 million for the same period of 1955, but a rise on £6,100 million for the same period of 1952. Bank advances this year during July to September were at an average of £1,900 million, a decrease on the £2,100 million a year earlier but a rise on £1,700 million four years ago.

Bank Rate has now been steady at 5½ per cent for over eight months. The accompanying chart shows the movement of Bank Rate since the beginning of 1952. In March of that year, it was raised from the long-standing rate of 2½ per cent to 4 per cent. It later went down to 3 per cent but is now 5½ per cent.



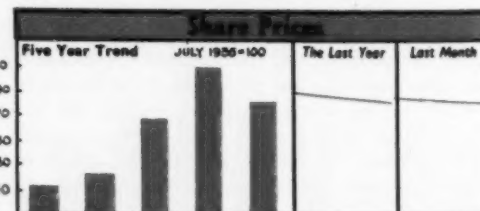
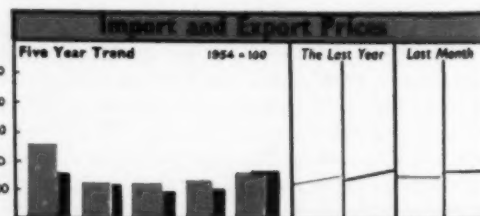
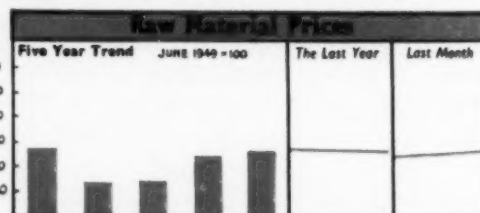
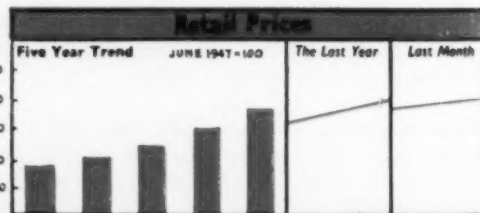
5. Trends in MARKET BEHAVIOUR

Retail Prices have now been steady for over six months. In the period June to August this year, the average level of the old retail price index was 157, which compares with 150 a year earlier and 138 four years earlier. The index for September this year was still 157, or the same as August and 7 points above September last year.

Raw Material Prices have risen very slightly in recent months. Average level of the index of basic materials used in non-food manufacturing industry, during the months July to September this year, was 155.7. This compares with 155.4 a year earlier and 157.1 four years earlier. In September this year, the index was 157.1, a rise of 1.3 points on August and an increase of 1.2 points on a year earlier.

Import Prices have lately been declining and **Export Prices** rising very slightly. During the three months June to August this year, average level of the import price index (1954=100) was 104, or two points higher than a year earlier but 10 points lower than four years ago. In the three months June to August this year, average level of the export price index was 106. This was four points higher than a year earlier and one point higher than four years ago. In September this year the import price index rose 1 point to 104 and the export price index rose 1 point to 107.

Share Prices have been on the whole steady or slightly sagging for the last few months. During the period July to September this year, the average level of the *Financial Times* index of industrial ordinary share prices was 181.1. This represented a big fall from the level of 205.2 a year earlier but a large rise on 112.7 four years ago. In the middle of October this year the index was around 177, or somewhat below the September average level.



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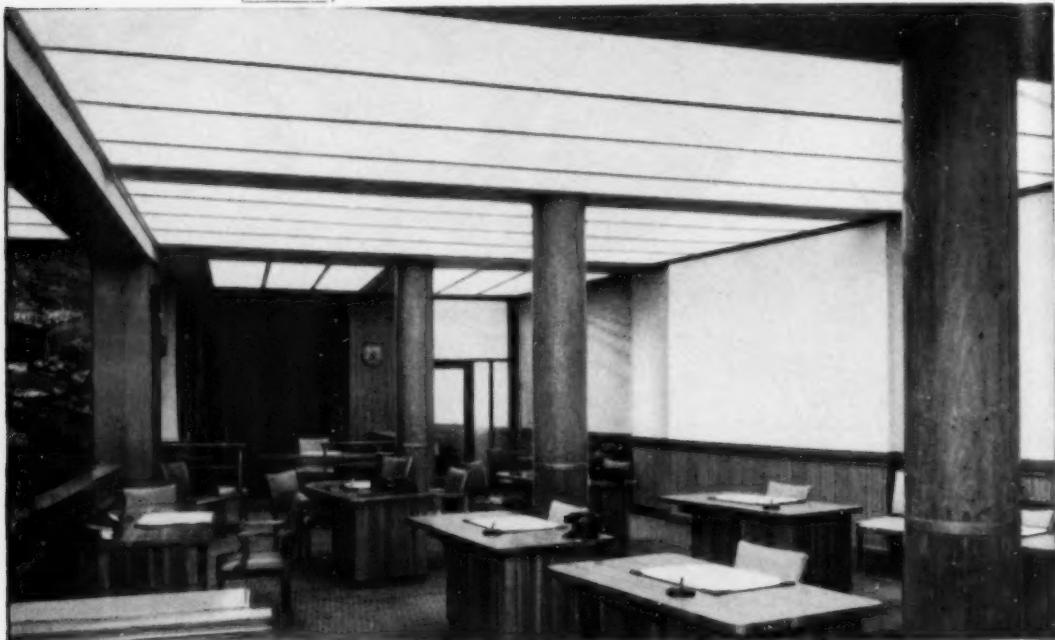
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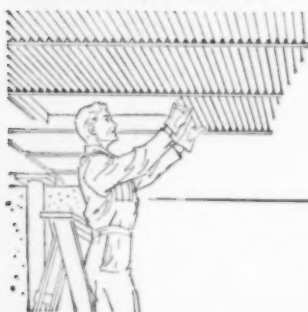


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HOME MARKET SURVEY

A Round Britain Survey: Regional Notes on Markets and Industrial Developments

SCOTLAND

INDUSTRIAL production continues to thrust ahead: for the first six months of this year it was 2 per cent higher than during the period January-June 1955, with largest increases being shown by the vehicle industry, metal producers and non-metalliferous mining manufacturers. Some industries, however, registered a decrease, including engineering and shipbuilding, and precision instruments. Nevertheless the outlook is healthy.

The shipbuilding position is strong, good progress is being made in mechanization in the coal mines, a number of firms are sharing in the growing field of nuclear energy developments, private finance industrial building continues at a high rate, whisky distilleries are operating at capacity and tweed exports are reaching record figures. These have been achieved despite the current shortage of labour which is keeping many looms idle.

Shipyard work was badly delayed in September as a result of the strike of 5,000 men in the steel-working trades in the Clyde's 28 shipyards, and efforts are now being made to catch up on commitments. Five Scottish yards are likely to share a P. and O. order for about 23 tankers, and Blythswood Shipbuilding Co., Scotstoun, Glasgow, have received contracts for two 18,500 ton tankers. For Norwegian owners William Hamilton and Co., Port Glasgow are to build vessels worth £2.5 million, and for a Melbourne firm the Grangemouth Dockyard Co. have on hand two 3,450 ton cargo motorships. Barclay Curle and Co., Glasgow, have a £750,000 contract for a 19,600 ton oil tanker for Norway.

The Caledon Shipbuilding and Engineering Co. are continuing their shipyard reorganization which was started last year when a new machine shop was added to the marine engineering department. Piling, foundations and runways for new berth cranes have nearly been completed and the first of four new cranes has been erected. The main platers' shop has been re-equipped and a new welding and fabrication shed is now being constructed. The whole scheme should be completed by the end of next year.

Firms in many industries announce new development projects. A plant for the production of polythene plastics material is to be erected by British Hydrocarbon Chemicals at Grangemouth where already a £4 million plant is under construction for Union Carbide. The British Hydrocarbon Chemicals' works, which will have a capacity of some 11,000 tons, will use the Phillips

low-pressure process. Also at Grangemouth the major expansion of Forth Chemicals' styrene monomer plant is now coming into operation: it will treble the initial capacity of the plant.

A new company, Thermotank Plastic Engineering, has taken over a factory at the Chapel Hall Industrial Estate and will specialize in the production of reinforced plastics items. At Bonnybridge good progress is being made with the installation of Ceramic Holdings' new plant: it is expected to be in production early next year. Federated Foundries Ltd, Glasgow, are currently putting in new machinery for modern castings production.

A £1.6 million, five-year reconstruction scheme is to be carried out by William Beardmore and Co. in the steel melting shop of their Parkhead Forge, Glasgow. New electric arc furnaces are to be installed in place of the existing open-hearth furnaces, and the scheme will increase the shop's capacity by 30 per cent. Rolls-Royce have set up a new design and development organization for their Scottish group of factories which will be concerned with the design and development of earlier types of jet and piston aero engines.

A larger turbo-prop version of the piston-engined Twin Pioneer passenger and freight aircraft is being developed by Scottish Aviation, Prestwick. Harland Engineering Co., Alloa, have called in a firm of consul-



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ECONOMIC PROSPECT

tants with a view to raising productivity. An extension now being made to the firm's water turbine shop will enable turbines up to the largest sizes to be manufactured and will provide facilities for heavy plant required in thermal and nuclear power development. Ferranti Ltd. are carrying out considerable research work on aircraft fire-control systems.

Extensions to the works and office block of Scottish Cables Ltd., Renfrew, should soon be completed. The new plant, which is being erected in the firm's grounds, will be wholly devoted to the production of plastic insulated cables. Scottish Cables' rubber insulated cable factory is also being remodelled, and extensions to other sections of their works are contemplated.

Following the delivery of a new 4-high mill for cold rolled strip, Bruntons (Musselburgh) Ltd. have been replanning the strip department for higher production rates. To meet increased demand for fine high tensile wire this firm are installing new drawing machinery which will increase their capacity.

Tyre manufacturers are active in investing in new machinery and modernizing their production methods. North British Rubber Co., Edinburgh, are in process of erecting several new buildings and reorganizing their layout. By next summer Goodyear Tyre and Rubber Co.'s new £3 million factory at Garscadden, Glasgow, should be in operation. It will provide work for several hundred workers. A new automatic tyre-building plant which has been put in at the India Tyre Co.'s Inchinnan factory will result in a 50 per cent increase in output.

Work is going ahead on the Old Edinburgh Road, Glasgow, site of the new works of Caterpillar Tractor Co. The plant, which will cover 500,000 sq. ft. and provide employment for 1,500 men, is scheduled for completion by 1958 and will turn out D.8 and D.4 crawler tractors. The Hyster Co., of Illinois, are building a new factory near Glasgow for the manufacture of the established range of logging winches for Caterpillar crawler tractors. These have hitherto been available only from the U.S.: the plant should be finished by the end of the year.

J. and P. Coats Ltd., Glasgow, are proceeding with the reorganization of their Paisley Mills. Their new spinning mill at Ferguslie has started production and the dyeworks at Anchor Mills are to be reorganized. At the company's Home Mills production continues at a high level with many of the key departments operating on double shift. Two-thirds of the female operatives at Paisley are now working on this system. New methods of worker training introduced by Coats have been successful in reducing the time taken to achieve full efficiency—an important point in view of the high turnover of female labour. Smedley's canning factory at Blairgowrie, Perthshire, which was rebuilt and re-equipped in nine months after being almost completely

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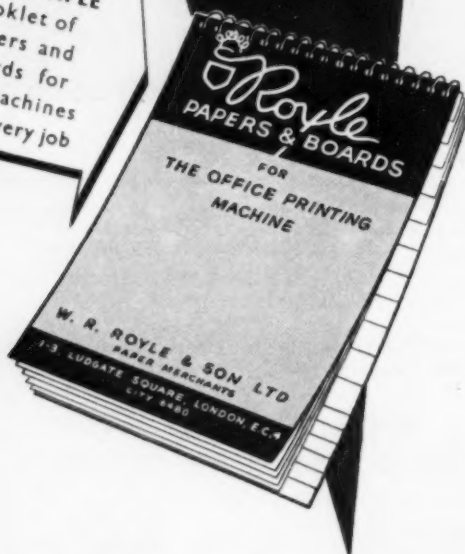
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ECONOMIC PROSPECT

guttled by fire, has more than doubled its former output in its first year. The main bay houses five parallel production lines. The Distillers Co. have strengthened their production side by the re-opening of Imperial Distillery on Speyside, a plant that has not operated since 1925. It has been completely redesigned and re-equipped with the latest equipment. The company are also carrying out an extensive reconstruction programme at a number of their other distilleries. A seven-acre new whisky plant for John Walker and Sons has recently been opened in Kilmarnock. The buildings have cost over £1.25 million and work will be given to over 500 people.

Scotland's lighter industries are showing signs of expansion, particularly on the office equipment side which has grown strongly in recent years. Burroughs Adding Machines Ltd, who already occupy 300,000 sq. ft. of factory space at Vale of Leven industrial estate, are to spend £10 million on developing a 72-acre site at the new town of Cumbernauld. First unit of the new plant will have a floor space of 200,000 sq. ft. and further sections will be built as soon as the first is operating.

Both British Olivetti at their Queenslie, Glasgow, works, and International Business Machines (U.K.) at Greenock are planning to increase their employee strength.

Ever-Ready Razor Products Ltd, whose new factory of 116,000 sq. ft. has recently been started at North Cardonald, have announced their intention of closing their London works and concentrating production in Scotland. They already occupy a plant at Hillingdon.

Scottish Industrial Estates are now building a 62,000 sq. ft. factory at Peterhead for Cleveland Twist Drill, a plant at North Cardonald for Wm. McDonald and Sons (Biscuits), and a 75,000 sq. ft. works at Port Glasgow for International Latex Corporation.

Sunbeam Electric Ltd. are in the process of transferring all workers from pilot plants at Hillington, Glasgow, and High Blantyre, to East Kilbride where manufacturing has already commenced. When in full production the East Kilbride factory will employ over 2,000 men and women.

Now under construction is the new Pilkington-Chance optical factory at St. Asaph, Flintshire. Installation of machinery is expected to start next March and production should commence about the middle of the year.

Early next year work is expected to start on the construction of the White Inch Linthouse traffic tunnel under the Clyde. The offer has been made by Stranraer Town Council to take some of Glasgow's 100,000 over-spill population provided that industry moves there too. Industrial sites and multi-storey flats are included in the proposed re-development of the Pollokshaws district of Glasgow.



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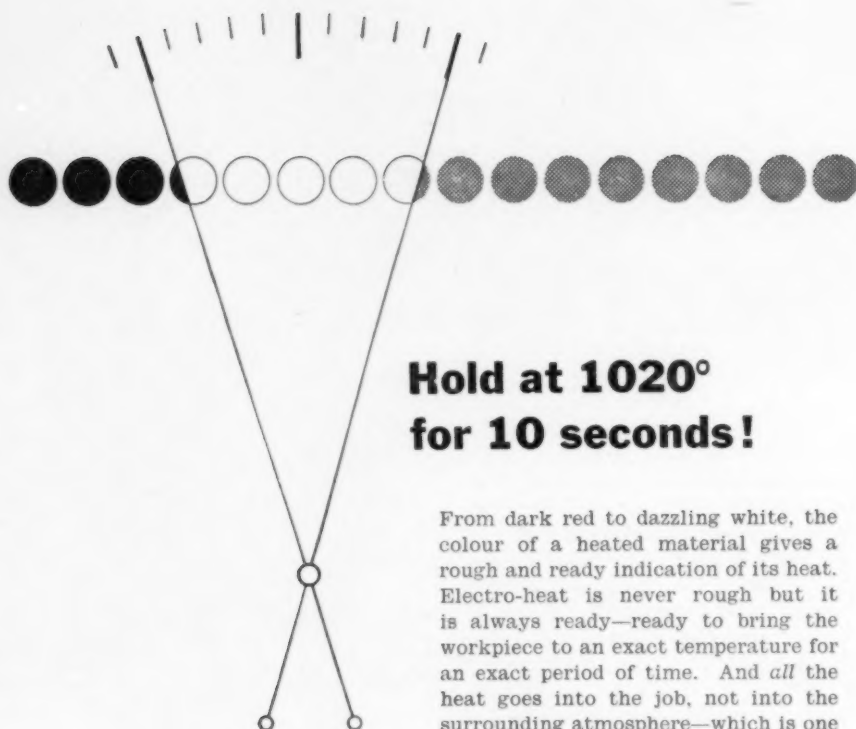
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EXPORT MARKET SURVEY

A Round-the-World Survey: Country by Country

PERU

ELECTION by a substantial majority of Dr. Manuel Prado as President of Peru this summer has pointed that country's way ahead fairly clearly, for his declared economic aims embrace maintenance of the system of free exchange and free enterprise, countering of inflation and development of national resources with International Bank aid where possible. Despite some strike outbreaks and unrest among white collar workers—to whom far-reaching wage concessions have recently been granted—Peru's position is stable and the trade outlook is bright, especially as there are no exchange controls and virtually no restrictions on imports. Steady economic progress is being made, with the current cotton crop promising well, the rice crop high, crude oil production rising and exports of iron ore nearly double last year's figure.

Britain has had a long trading history in Peru; indeed until the beginning of this century British goods dominated the market. Today the U.K. supplies only about 9 per cent of Peru's imports while taking 14 per cent of that country's exports, and the lion's share of trade has been captured by America. Nevertheless, U.K. exports in 1955 reached £8.6 million in value, compared with £6.4 million in 1954, and for the first eight months of this year they totalled £9.8 million.

Among Britain's major shipments are textiles, small agricultural equipment, industrial machinery, chemicals, pharmaceuticals, chinaware and rubber products, and these and other categories of manufactured goods can well be expected to expand.

★ ★ ★

The country is the fortunate possessor of a many-sided economy in which agriculture—with cotton producing one-third by value of Peru's normal export income annually—is matched by large resources of lead, copper, petroleum, silver, iron ore and zinc, now in process of being exploited commercially. To this must be added a nascent heavy industry which is receiving help from several foreign enterprises who have been attracted by the Government's realistic commercial policy.

Like the economy, the topography is many-sided. Lima, the capital, is sited on a narrow, desertlike coastal plain whose fertile valleys running inland contain sugar and cotton plantations; and here are to be found most of the oilfields. In the mountainous region of the Andes are the mineral deposits, livestock and some five million

Indians. Between the Andes and the jungles to the east are the still largely undeveloped sub-tropical uplands. Lastly, there is the Amazonian jungle.

Peruvian agriculture is faced with the challenge of increasing output to meet the needs of a growing population, and, since in the coastal belt there is scarcely any rainfall, success is largely a matter of better irrigation—and consistent pest control. Good progress has been made in this latter respect in recent years, and specially designed aircraft are now employed for spraying and dusting. Over the past half century the irrigated coastal area has been doubled and very much more could still be accomplished. But as most projects involve the diversion of Andean lakes and rivers, the cost is high.

★ ★ ★

Biggest scheme undertaken to date is the multi-stage Quiroz irrigation project. Already the diversion of the waters of the Quiroz river to the Piura river has ensured a constant water supply to some 75,000 acres of rich cotton land in northern Peru. The second stage, due to be completed in 1958, will bring 125,000 acres of desert between the Chipillico, Chira and Piura rivers under cultivation, through the erection of a dam at San Lorenzo. This will retain some 250 million cu. metres of water and will cost over £9 million, of which the International Bank has lent £6 million.

Big irrigation works have been carried out on the Mantaro river in central Peru, and another scheme in the departments of Lambayeque and Cajamarca, inaugurated last July, involved diverting the Chotano river, flowing eastward to the Amazon over the Andes, to join the Chancay which falls to the Pacific.

Hand in hand with progress in farming has gone an expansion of Peru's fishery industry, potentially a rich one. Production has increased markedly since 1949; a number of large refrigeration plants have been established and there has been a growth in processing and preserving.

At present a U.S. concern are clearing nearly one million acres of forest in the Pachitea river region of east Peru and constructing a road to link the area with the Trans-Andean Highway near the river port of Pucallpa. Areas in the south which were recently affected by severe drought are the subject of a new agreement between the U.S. and Peruvian governments under which America is to grant financial and technical

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Attention is being given to port improvements. Callao, which handles 75 per cent of Peru's imports and 20 per cent of its exports, has been modernized with the assistance of a £1 million loan from the International Bank, and considerable extensions are in hand at Pisco, Paíta and Salaverry where George Wimpey and Sons are now carrying out a £2.5 million contract.

Steps are to be taken to increase electricity supplies, and a French technical mission of L'Electricité de France is to conduct a complete survey of electrification in the country. At present nearly 70 per cent of installed capacity is hydro-electric, and such projects are costly since they involve tunnelling through the Andes at heights around 14,000 ft. Public undertakings generate less than half the total current; most of it is produced by plant owned by large industrial concerns.

There are openings for sales of generating plant: in the rapidly growing area of Tacna, for instance, four Mirreles/Brush diesel sets are supplying power for new local industries. The outlying provinces are badly served with electricity and this has been responsible for a low volume of sales of domestic electric appliances, to date. Peru is beginning to look to nuclear energy to help solve its power problem: arrangements have been made for the U.S. to provide a research reactor for the Peruvian Atomic Energy Board.

Mining occupies an important place in Peru's economic pattern, and, stimulated by the new mining code introduced a few years ago, foreign participation has been notable. Operating in the Andes, the Cerro de Pasco Corporation are now concentrating on the production of lead and zinc. Their zinc refining capacity is, with a loan from the Export-Import Bank, to be expanded to 200 tons per day, and to supply the necessary power a 72,000 kW hydro-electric plant is being built.

The Export-Import Bank have also granted a \$1 million dollar loan to the Southern Peru Mining Corporation for opencast exploitation of the Toguepala copper deposits. These reserves are estimated at 400 million tons, placing them among the 10 richest in the world.

At the beginning of this year there were 3,347 oil wells in operation, and petroleum and its derivatives still constitute one of Peru's principal exports. Increased production this year is actually due to improved yields and not the opening up of new fields.

Agreement was reached last year between the Santa Corporation and French financial interests for the completion of the steel mill and hydro-electric project at Chimbote. Machinery is now being installed, and the whole plant should be in operation by April of next year. Production is expected initially to be 53,000 tons per year of corrugated reinforcing bars, hot-rolled sheets, small merchant bars, wire rod and pig iron.

BUSINESS

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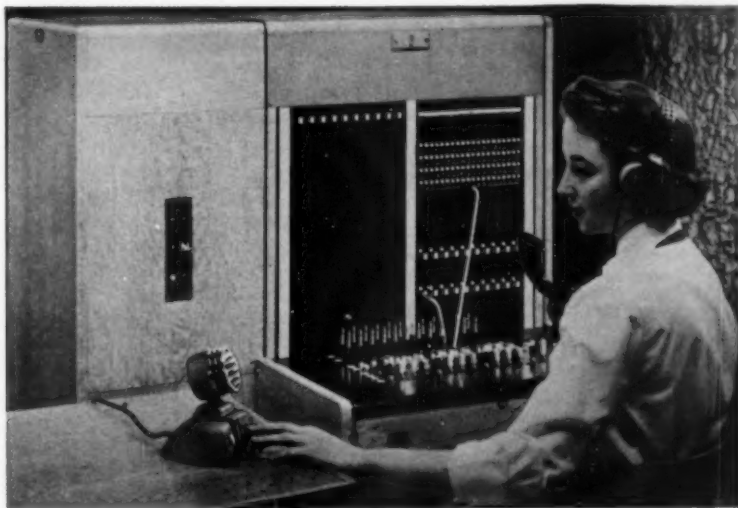
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MARCH OF BUSINESS

IDEAS AND ACTIONS OF FORWARD-LOOKING EXECUTIVES

NOT ENOUGH CREAM

POLITICAL and Economic Planning's recent survey of 'Graduate Employment'* has debunked some long-standing misconceptions. One was that industry was not getting its fair share of university graduates.

The survey shows that of all 1950 male graduates 30 per cent went into industry and 7 per cent into commerce. Teaching took only 23 per cent, and the Civil Service only 8 per cent; the rest were scattered among various callings and professions in groups of 4 per cent and under. Industry and commerce not only got a good share numerically; they also took two-thirds of the technologists and two-fifths of the scientists.

The survey points to the danger of industry taking too large a proportion of the available graduates. In this way it would jeopardize its own future supply by reducing the number of teachers.

The argument should rather be over ways of increasing the total supply. For in 1954, Britain produced only 6,800 technologists, whereas the United States produced 22,000 and Russia 60,000.

The trouble is not that funds are short—any government which is determined to embark on a more ambitious education programme will find the money to do so. The real barrier is the intellectual snobbery of the education experts who insist on testing all children at the age of 11-plus—regardless of their individual rates of development—and then rule that only 20 per cent are worth academic training.

Britain already has a system whereby at 13-plus a child who was misjudged at 11-plus can be transferred to a grammar school. What

we now need is a system whereby a further 10 or 20 per cent of the late-developers can be transferred at either 12-plus or 13-plus.

Meanwhile it may be a good thing that industry does not get too great a proportion of the highly-trained people. For in industry the late-developer is given a better chance of showing his mettle than in most other callings.



EXPORTS of British office equipment are still rising. During the first eight months of this year they

totalled £16.1 million, more than £2 million higher than during the same period of 1955. Exports of auxiliary equipment—steel office furniture, safes and stationery—almost matched the increase made by the machinery section of the industry.



HIDDEN WAGES

BIG firms are spending more and more money on employee welfare services. The average may be as high as 20 per cent of the workers' gross earnings.

This estimate is borne out by an item in the annual accounts of Thomas Hedley and Co. Ltd. In

HIGHLIGHTS OF THIS ISSUE

- ▶ **Making sure that your products get a good showing at an overseas trade fair may cost only the fares and expenses of one executive . . .** Page 85
- ▶ **A healthy business is one in which the management use everybody's ideas. Case-histories . . .** Page 91
- ▶ **Soon British firms will get a chance to assess the day-to-day value of electronic data-processing systems. Plain-language survey of progress and prospects in this field . . .** Page 97
- ▶ **Up and up went output when the board of a Midland engineering firm gave a union official a veto on all their decisions . . .** Page 117

Next Month

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FAULT-FINDING FILMS. Case-histories show how high-speed photography is solving problems in many works.

* "Graduate Employment"
Allen and Unwin, 30s.

the past year, 'looking after' 4,000 employees cost the company no less than £400,000. £100 per employee, in fact.

Included in this figure are such items as pension and profit trust funds, group life assurance, sickness benefits, and social and sports activities. Hedleys say that the governing principle of their welfare programme is that it should 'provide protection for the employee where he is least able to make provision himself.'

Generally the big firms are not over-anxious to publicize the value of these 'indirect wages.' After reading that one organization's expenditure on welfare equalled 26 per cent of the gross earnings, BUSINESS tried to find out just how the money was allocated. The company replied: 'The least said the better, we feel.'

This attitude seems rather misguided—especially at a time when the wage-claim merry-go-round is beginning to spin again. Or are the big firms convinced that workers are impressed only by the rewards which they see in their pay packets?

★ ★ ★

COMMERCIAL contacts with Iraq will be facilitated by the information bureau which the Iraqi government have set up at their Embassy in London. Its directors, Abdul Aziz Al Mudhaffer, emphasizes the immense scope for trade co-operation between his country and Britain. At present, Iraq is spending about £100 million a year on projects ranging from dams and power stations to schools and hospitals.

★ ★ ★

WOING THE REBEL ?

LORD Bracken's resignation from the Institute of Directors naturally caused some speculation. Was it a protest against the decision to ask Frank Cousins, new general secretary of the Transport and General Workers' Union, to address the Institute's annual conference?

This issue of BUSINESS is going to

press just as the conference opens, so we cannot comment on Mr. Cousins's speech. However, we can question the wisdom of inviting him on to the platform in the first place.

The invitation smacks of a desire to climb on the Cousins' publicity bandwagon. And an Institute whose 20,000 members include the top brass of British industry has no need for hitch-hiking of this sort.

Few will grumble at the magnanimity of the Institute's four-year-old policy that one of the speakers at each conference should be a trade union leader. But it was only a few weeks ago, at the Trades Union Congress, that Mr. Cousins went out of his way to create an atmosphere of defiance to the Chancellor's appeal for wage restraint—an appeal which must weight heavily with all thinking people in Britain, employers or workers. So why choose this moment to give Mr. Cousins another platform?

The Institute of Directors would find a better way of dealing with Frank Cousins if they persuaded one of their leading members to challenge him to a debate on television. Someone of the mental calibre and experience of Lord Chandos, (who appeared on T.V. recently) would quickly deflate the rebel—forcefully but with dignity.

And in doing so he would set an example of reasoned argument, tempered with fairness, which would inspire executives all down the line.

★ ★ ★

MEMBERSHIP of the London Computer Group—formed about eight months ago—now exceeds 375. The group has now divided into a number of sections, which are studying different aspects of the design and use of electronic digital computers.

★ ★ ★

COMBINED OP.

FOR many years management consultants have been considering the possibility of setting up a professional association. It was mainly their failure to do so which

led to the formation, in 1948, of the B.I.M. Register of Consultants.

Now the 'big four'—Associated Industrial Consultants, Personnel Administration, Production-Engineering, and Urwick, Orr and Partners—have acted on their own account by forming the Management Consultants Association. Its main functions will be (1) to pool experience for research purposes; (2) to develop all management techniques; and (3) to improve their services to clients.

Technical progress in such fields as electronic data-processing and factory automation is raising new managerial problems. The four firms believe that co-operative research will help to provide speedy solutions. In their normal business activities they will continue to compete with one another.

Between them, these firms employ about two-thirds of the individual management consultants in Britain.

★ ★ ★

NEXT year will see the first National Exhibition of Protective Clothing and Safety Equipment. It will be staged in the Empire Hall, Olympia, London, from May 13 to May 17.

★ ★ ★

INVESTMENT IN MANAGERS

THERE are still plenty of self-made, hand-finished businessmen who dismiss executive development schemes as 'new fangled nonsense'. But they might have had second thoughts on the subject if they had visited Management House last month when an American speaker, Dr. H. H. Race, gave first-hand information of the time and money which General Electric are investing in their new residential Executives' University.

This investment is considerable. According to Dr. Race—who acts as consultant to the company's management research division—it amounts to hundreds of thousands of dollars and 5 per cent of their total managerial man-hours. In groups of 8.

BUSINESS



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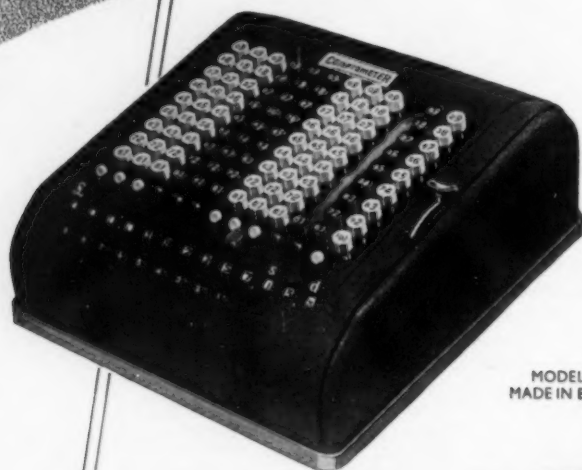
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all managers from G.E.'s 100-firm empire are being sent there for a three-month period of training. Each course is composed of men from different firms, recommended by their immediate superiors.

The company adopted the principle of residential training because they knew from experience that an executive, if given a 'home study' course, would divide his time and energy between studying and managing—to the detriment of both occupations. Under the chosen system, moreover, his enforced absence for three months makes him delegate responsibility; and this, in itself, helps in the development of the junior men he leaves behind.

The whole idea of the training is that individuals should be allowed to 'grow' from within themselves. For the morning sessions, which consist of lectures and discussions, the members of the course are divided into groups of 16. Constantly they are urged to project their thoughts into the future; to think in advance of the impact on management of technical progress and social changes.

After 12.45 p.m. each day the men are officially 'free.' But during much of this time they organize lectures and discussions on their own initiative.

★ ★ ★

ALONDON insurance expert, Hargraves Bloch, claims that five out of every six British firms fail to get the best value from their insurance cover. He names three 'weaknesses' in the insurance 'roof' over many firms: (1) dealing directly with one company and thus failing to benefit from independent advice on the best markets for specific risks; (2) indiscriminate use of stereotyped policies; and (3) failure to keep pace with expansion when revising cover.

★ ★ ★

ANSWER THERE WAS NONE

IT is probably unwise to take a momentous issue over which businessmen have argued continuously for more than ten years and make it

NOVEMBER, 1956

PEOPLE PRODUCTS PLACES 1

BACK TO NATURE—Radical change of occupation is announced for G. C. S. Greenhead, until recently second-in-command at Kelvin and Hughes Ltd. Last month Mr. Greenhead was appointed managing director of E. W. Nickerson and Sons Ltd., the Lincolnshire seed firm. He had been with Kelvin and Hughes for 20 years, and was a director of five companies in their group.



SERVICE WHILE YOU FLY—Glasgow's Renfrew Airport is now graced by this £25,000 service station for cars. The building contains many amenities both for man and machine (including lounge and showers, car hire facilities and an automatic car washing plant). Good business should be in store for it as over half Renfrew's annual 400,000 passengers come by car.



NEW-STYLE PACKAGING—These aluminium foil containers are the latest idea in throw-away food packs. The container acts as the actual baking, cooking or preparation dish, and can be put straight into the housewife's oven for re-heating. The foil is hygienic, attractive, and reduces wastage. As the picture shows, several large manufacturers are investigating possibilities.

the theme of a five-hour conference. Inevitably some of the speakers will be driven into well-explored avenues paved with frequently-turned stones. And inevitably some of the delegates will be left with the impression that the titles of the papers were more to the point than the papers themselves.

This is what happened to the one-day conference staged at the Royal Festival Hall last month by the Incorporated Sales Managers' Association. Its theme was: 'Can we sell our way out of inflation?'

Fivespeakers optimistically answered 'yes' with five different provisos: (1) if we adopt sound labour policies; (2) if we see the position clearly; (3) with the right export policy; (4) with better management; and (5) if we recognize the interdependence of production and sales.

These answers appeared on the programme. It must be admitted that not a great deal was added to them during the conference.

Fortunately there was a reasonable quota of incidental wisdom. For example, Montague Pritchard, deputy managing director of F. Perkins Ltd., had some hard things to say about the composition of boardrooms.

He declared: "The present practice in Britain of employing boards of directors which are dominated by company executives is, when you examine it, quite farcical. The board's responsibility, as I understand it, is one of trusteeship on behalf of the owners or shareholders. . . Only in a crisis does it become an organ of action, and then only to remove existing executives who have failed.

"In all conscience, how can a board composed of executives perform such a function? Either the managing director surrounds himself with 'yes' men and decisions are taken outside the boardroom, only to be confirmed in the way the managing director wishes when the board has to meet; or where the managing director is weak . . . each individual executive goes about running his own activity in his own sweet way. At board meetings, one departmental head dare not criticise the activities of another for fear of a reprisal."

PEOPLE PRODUCTS PLACES 2

EXPORT PROSPECT—Over here to look for new textile machinery is John B. Rubenstein, vice-president of Security Mills Inc., U.S. manufacturers of knitted fabrics. His company have never bought abroad before, but feel that American machinery is aimed too much at the mass production market. Mr. Rubenstein will also be taking a look at Continental machinery.



CRITICS ANSWERED—Test drivers covered more than 25,000 miles at an average of over 60 miles an hour on German Autobahnen before the British Motor Corporation's new models were released last month. They were out to disprove the old moan that 'British cars are only good for British roads.' Judging from reported speeds and petrol consumption, they were eminently successful in doing so.



PIN-UP LIGHTS—New on the market is this high-frequency, low-voltage neon sign system. Letters are individual and can safely be pinned on to the base board provided. The machine, which works off ordinary mains, weighs only 10lb. The component letters can be bounced on the floor and are guaranteed for life. They cost only a few shillings.



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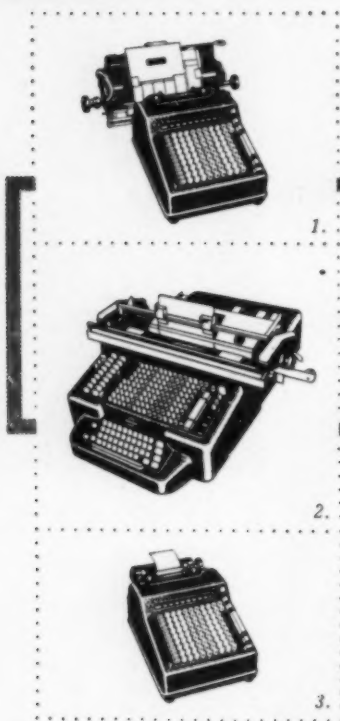


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TALKING POINTS

GATEWAYS TO NEW MARKETS

Does Britain Spend Enough on Foreign Trade Fairs?

WHILE visiting the British pavilion at this year's Zagreb fair, the Yugoslavian Prime Minister made this comment: "Is not Britain an industrial power any more?" Only a handful of British firms were represented—although Zagreb is one of the few international fairs "behind the iron curtain."

Does this give a true picture of Britain's efforts at overseas trade fairs? The special BUSINESS survey which begins on page 85, seems to suggest that it does.

The article is aimed primarily at telling individual firms how they can make sure that their products get a 'good showing' abroad. But it also mentions the activities of the Board of Trade and the F.B.I.—and it is often these bodies which have to bear the brunt of any adverse criticism of British representation at international trade fairs.

In fairness, it should be made clear that the Board of Trade's Exhibitions and Overseas Fairs Branch are trying to make a little money go a long way. At present their annual budget is £60,000. Even when the late B.I.F.'s overseas publicity funds are added, the amount will still be only £150,000.

How does this compare with the budgets of other countries? Germany's total is £212,800. In 1956 the U.S.A. have had 2,760,000 dollars to spend, and next year they will have 3,650,000 dollars (over £1,300,000). Russia and her satellites spend an enormous sum every year at overseas trade fairs.

However, in the cases of the U.S.A. and Russia, the funds are spent almost exclusively on prestige-boost-

ing national pavilions. Our Government steadfastly refuses to enter into what has been called an 'inverted arms race.' And whereas most other countries have an official central fair authority which assists in the running of individual fairs, this country has no such organization.

Because of their limited funds the Board of Trade can participate only at a few major overseas trade fairs. Even where they are active, they or the F.B.I. are sometimes unfairly set up as Aunt Sallies. Recently, for example, the national Press gave much publicity to criticism levelled at the F.B.I.'s British pavilion at Damascus. This was described as "a static water tank" and its decor as "bilious." But the critics' remarks proved ill-founded—the British display was a great success and attracted more visitors than even the super de-luxe Russian and U.S.A. pavilions. And whereas most other pavilions at Damascus were propagandist, ours was solidly commercial.

On the other hand the B.o.T. and the F.B.I. are not always right. One instance of misjudgement involved this year's Strasbourg fair. The French organizers undertook to supply an information stand completely free of charge, if the Board of Trade could send some French-speaking staff to man it. The offer was refused on the grounds that the B.o.T. foresaw too many additional expenses, and could not spare the staff at that time, anyway. Holland eventually took over the stand with two French-speaking staff and one typist, and did a roaring trade.

Whereas there is a tendency for the

Board of Trade to spend their money on information stands, rather than on supporting the efforts of individual firms, there are many people who feel that these priorities should be reversed.

However, individual manufacturers cannot afford to sit back and smugly condemn the Board of Trade's efforts. As our opening article shows, they can, on their own initiative, ensure that their products get a good showing at overseas fairs. Unfortunately, many of the Continental organizers of trade fairs are inclined to regard British manufacturers as slow-moving, complacent individuals who still say: "If they want to buy British, let them come and get it."



AS YOU WERE

'Old Age' Fears Are Unfounded

RELAX: you and your employees are not necessarily going to make things difficult for the community by living to a ripe old age. The idea that 'everybody is living much longer now' was knocked on the head by Professor D. C. Marsh, of the Department of Social Science, Nottingham University, when he addressed the annual conference of the Association of Municipal Corporations a short time ago.

For older people, Professor Marsh declared, there had been very little improvement in the expectation of life during the past 100 years.

Referring to 'gloomy' prophecies about the difficulties likely to arise out of the so-called ageing of the population, he said that there were many mistaken ideas. The real reason why the proportion of old people was increasing was that there had been a big improvement in the expectation of life at younger ages.

The businessman—and the employee—who retires at 65 today can look forward to virtually the same period of leisure as the man who retired at this stage 100 years ago. It's just that he has a much better chance of getting to the point of retiring.

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Special 'BUSINESS' Survey Shows How

OVERSEAS TRADE FAIRS

Can Open New Markets Boost Export Sales

By JOHN A. ASH

EXHIBITING at overseas trade fairs is one of the best ways in which a manufacturer can introduce and sell his products in other countries. Many German manufacturers attribute their post-war export successes to the extensive use which they have made of this type of shop-window. But their government spends about £213,000 a year on supporting the efforts of individual manufacturers in trade fairs. British firms have to manage without any such financial support.

The Board of Trade spend only

£60,000 on official U.K. participation at overseas trade fairs. So it is up to individual firms to pay their own way.

There are three main categories of trade fairs overseas (excluding, for this purpose, purely national fairs to which British and other foreign exhibitors are not admitted): 1—general international fairs, of which there are thirty or more in Europe alone; 2—specialized international fairs, concerned with the products of only one industry or group of industries; 3—all-British fairs. The last is largely a post-war development, de-

•
•
• **More and more overseas**
• **trade fairs are held every**
• **year. Continental**
• **manufacturers already**
• **recognize their value as sales-**
• **boosters. This survey—based**
• **on talks with organizers,**
• **exhibitors and trade advisers**
• **and supported by a fact-finding**
• **visit to Ghent International**
• **Trade Fair—tells British**
• **firms how they can make**
• **sure that their products get**
• **a good showing in the right**
• **places abroad.**

signed to create the maximum impact on a particular market at a particular time.

There is a further distinction to be made in the case of general international fairs.

The normal system, which is practically universal in Europe, is for the organizers to sell space direct to individual exhibitors and to arrange them according to their products in trade sections. Recently, however, there has been a tendency, especially in the case of newly established fairs outside Europe, for the organizers to allot the space on a national basis. This means that an exhibitor from a foreign country cannot show his goods unless his own Government or some other central authority is prepared to take up a block of space,

erect a pavilion and allot the space in it to its own nationals.

How to Use

In the normal type of trade fair, in the case of a British pavilion, where one exists, and in the case of specialized fairs there are three ways in which firms can show their products. These are:

1—They can organize the stand themselves, with or without the aid of a local agent.

2—They can take part in a composite stand with other manufacturers.

3—If their agent has a stand of his own, he can be encouraged to give their products a good showing.

The first of these methods can be arranged almost entirely through the organizers. In addition to the booking and allocation of space they will assist by putting firms in touch with stand fabricators; normally, they will have contracted a local firm to handle such work for all exhibitors. This is an important point. Stands can usually be made more cheaply in the locality of the fair than in Britain and, of course, there are no transport problems. There are also fewer worries about getting the stand finished in time, for in most other countries an electrician can saw a piece of wood or wield a paintbrush if the need arises!

When the firm have no local agent, it is generally advisable for them to send a reliable representative to keep an eye on the fabrication of the stand, or at least to establish personal contact with the contractor who is handling it. But since exhibiting at an overseas trade fair is usually associated with a sales drive in the country concerned, there is almost invariably an agent who can deal with most problems on the spot.

It is of immense value to arrange for a senior representative of the firm to be present on the stand throughout the fair. This gives him a chance to strike and maintain personal relationships with both agent and customers.



Sales messages should be expressed in the local idiom. Translations should be checked and double-checked, since poor translations bring more smirks than sales.

To take part in a composite stand has some drawbacks. This type of display cannot highlight the products of one firm, and it is impossible to give buyers the full range of expert attention. There are exceptions, however, and for the smaller firm with a limited budget, representation on a composite stand is often an attractive proposition. Arrangements are usually made through trade associations, though groups of firms are not precluded from getting together under their own initiative.

Exhibiting on agents' stands is by far the most common and—it seems—the most practicable method. At least 80 per cent of all British goods at overseas fairs are shown in this way. There are, moreover, a host of things which a British firm can do to

help their agent, and, at the same time, help the sale of their products.

To arrange for a senior representative of the firm to be present on the stand throughout the fair—giving him a chance to strike and maintain personal relationships with both agent and customers—is of immense value. In this case the cost of exhibiting amounts to the fares and other expenses of one man.

Specially-built working models may also simplify the agent's task. If the product is of a complicated nature, the presence on the stand of a technically-qualified man will obviously help. German manufacturers—whose products may be handled by the agent who handles British products too—found their agents unmercifully during the fair.

There are various ways in which a firm can help to put their products across while the fair is on. Some have found that arranging for publicity films to be shown in the vicinity of the exhibition pays really handsome dividends. Publicity and sales literature is, of course, an important

means of entering the homes, offices and factories of the country in which the fair is held. This should be designed in the traditions of the markets at which it is aimed. Translations should be checked and double-checked before such material is put on a stand, since poor translations bring more smirks than sales. Every effort should be made to express the sales message in the local idiom.

On his own initiative, an agent may hold a pre-fair exhibition in his showrooms, and obtain editorial publicity in local and national newspapers, and in trade or technical journals. But experience has shown that normally, he is unlikely to do it unless the manufacturers give direct assistance. On the Continent, agents set great store by personal contacts with their principals, and even a one-day visit from a senior member of a firm before the fair opens may result in the products getting a much better showing.

It is probably true to say that exhibiting, at least at the general fairs, is looked on more and more as a long-term investment, from which orders may be expected to result months or even years later.

Advertising in the fair catalogue has been known to bring in trade three or four years later.

Thus one of the most important aspects of exhibiting overseas begins after the fair closes. For if the follow-up arrangements are inadequate, then a stall in Petticoat Lane would have been a better proposition.

Agents should be placed in a position where they can answer all trade enquiries and give firm delivery dates immediately after the fair. Nowadays buyers are not interested in being referred to the British principals when they make an enquiry. So agents should have ample stocks on hand, and should be able, if necessary, to give full after-sales service.

Where to Show

Hundreds upon hundreds of trade fairs are held annually and many have an international flavour. In most countries there is at least one major national or international trade

fair every year. Among the most important of the general fairs are : *Brussels International Trade Fair*. One of the most important in Europe, this deals mainly with consumer goods and machinery. It is held in late April and early May, and lasts 15 days. The number of British exhibitors has averaged 300. Attendances are always above the million-mark, including some 15,000 overseas visitors. The cost of stand space is approximately £2 17s. 3d. per square metre indoors and £1 1s. 6d. per square metre out of doors.

Canadian National Exhibition. In a carnival setting, the fair takes the form of a commercial display in permanent buildings. The British Government building holds an annual display of U.K. consumer goods exhibited mostly by agents and distributors. Last year, the number of British exhibitors was 58, while attendances have reached 2,800,000 in the past two years. Space in the government building costs about 7s. per square foot.

German Industries Fair, Hanover. Open to the world, this combines the Hanover Technical Fair (for capital goods) and the Hanover Samples Fair (for consumer goods). It is held in late April and early May, and lasts nine days. The technical fair is the

main one. On the past two occasions the combined event has attracted over 1,200,000 visitors, including about 84,000 buyers. In 1955, Britain supplied only about 20 of the 4,000-odd exhibitors. Cost of space indoors is approximately 12s. 9d. to 14s. 5d. per square foot, according to position, and in the open air, 6s. 9d. to 8s. 6d. per square foot.

Milan Samples Fair. This is the largest in Europe, and shows a wide range of consumer and capital goods. Held in April, it lasts 16 days. The number of exhibitors in 1955 was 13,209, and Britain supplied 471 of them. Attendances normally exceed four million; in 1955, there were 90,000 overseas visitors and buyers. Cost of space indoors is approximately 8s. per square foot and outdoors, from 5s. 8d. to 13s. 8d. per square foot according to position. In addition, there is an entry fee of £2 5s. 9d. and a three per cent tax on the total amount.

St. Eriks International Fair, Stockholm. Organized in national pavilions and trade sections, this caters for both consumer and capital goods. It is held in late August and early September, and lasts 15 days. There are always close on 2,000 exhibitors. Last year, British Exhibitors numbered more than 100, and there were



The trade fairs policy of the Kaymet Co., manufacturers of anodised ware, is simple: "One exhibition per country per year." Since 1948, when the company first exhibited overseas, they have appointed 65 foreign agents, and they now export more than 80 per cent of their products.

470,824 visitors, of whom 74,202 were buyers. (This last figure, however, was lower than usual). Exhibiting indoors costs approximately 8s. 3d. per square foot, and this rate includes dividing walls. Outside sites cost approximately 2s. 9d. per square foot.

The European Fair, Strasbourg. The fair is held in September, and a wide range of capital and consumer goods are shown. This year, there were 5,045 exhibitors, including 154 British firms. Attendance figures for the 16 days was 816,000, and visitors from 72 foreign countries were registered. Space under cover costs approximately 8s. per sq. ft., and in the open, 1s. per sq. ft.

Other important fairs include the Vienna I.T.F. (September), the Cologne I.T.F. (Spring and Autumn), the Frankfurt I.T.F. (Spring and Autumn), the Izmir I.T.F. (late Summer), the Leipzig Fair (Spring and Autumn), the Lyons Fair (Spring), the Paris Fair (Spring), the Ghent I.T.F. (September), the Zagreb I.T.F. (Autumn) and the Utrecht Spring Fair.

It would be dangerous to over-emphasize the value of fair statistics. Attendance figures do not allow for people who go twice or more, while the cost of space does not bear much relation to overall exhibiting costs.

To estimate the cost of exhibiting at overseas trade fairs is, in fact, difficult. The sum will include expenditure on the stand (space rent, design, construction, and maintenance during the fair); advertising in the catalogue and in local shops and papers; transport of the exhibits and display material; staff travel and hotel bills; and hospitality during the fair.

These costs vary from fair to fair, and from country to country. As an example, the total cost of exhibiting on a small (120 square feet) and not



This pre-fabricated stand—packed into a special van (shown on page 106)—is the spearhead of Trico-Folberth Ltd.'s Continental sales activities. They sell more than half their products overseas.

over-pretentious stand at the Canadian National Exhibition would be in the region of £650. (This estimate embraces all the expenses mentioned above.) On the other hand, a firm might spend anything from £400 to £4,000 on setting up and staffing a stand at one of the Continental fairs.

Private contractors are normally responsible for organizing and running national pavilions at overseas trade fairs. Notable exceptions this year were the pavilions at the Autumn Fair of Vienna (sponsored by the Board of Trade) and at the Damascus Fair (sponsored by the F.B.I.'s subsidiary company, British Overseas Fairs Ltd. which is concerned primarily with the running of all-British fairs overseas).

How to Choose

Selecting the right fair depends on many considerations: for example, the product, the import restrictions imposed by the countries concerned, and the competition to be expected from local industries. Information which will help a firm to make a

decision is available from the F.B.I., the Board of Trade, and the British agents of individual fairs.

The F.B.I. and the Exhibitions and Fairs branch of the Board of Trade, offer excellent information services. They have agents in most countries of the world, who return to London headquarters up-to-date information on local trading conditions.

It should be pointed out that neither of these bodies is prepared to advise on individual problems. Their services are confined to the provision of objective information; where, when, what, how many, how much—practically anything in the statistical line which a company want to know about an overseas market.

Looking at Ghent. To find out how the presentation of British goods at an overseas fair compares with that of competitive foreign goods, BUSINESS visited the 11th Ghent International Fair in Belgium recently. Although the Ghent Fair is not one of the biggest trade fairs, it is nevertheless an important event. That, at least, appears to be the opinion of German, Italian and American manufacturers, all of whom took great pains to put on a big show this year.

The organizers say that if a foreign manufacturer obtains results at a Belgian fair, he has a pretty good chance of succeeding in other parts of Europe. There are virtually no



Exhibiting at overseas trade fairs is looked on more and more as a long-term investment, from which orders may be expected to result months or even years later.

import restrictions on most British goods and the country's markets are open to the world.

Another attraction is that Belgium is extremely easy to reach. British firms can send their exhibits by the Belgian State Marine Railways, whose six passenger/cargo ships and one cargo ship handle most types of freight. Packed machinery, weighing less than one and a half tons, costs 61s. per ton from Dover to Ostend, refrigerators cost 107s. per ton; and unaccompanied motor cars, weighing less than one ton, 197s. From these examples, it is clear that transporting special exhibits to Ghent for the period of the fair (for which special 'no-duty' import licences are available) is not over-expensive. It is, in fact, barely half the cost of sending the same product from London to Glasgow. On page 106 of this issue is a photograph of Trico-Folberth's 'travelling circus' being loaded on to one of the Belgian ships.

Britain's exports to Belgium are already considerable, but there is still plenty of room for more well-designed, well-made products. At the moment, every other major manufacturing country is putting on the pressure. When the Ghent Fair was launched in 1946 there were 367 exhibitors; this year, there were 1,350—a fair picture of how the fair has grown in importance. There is always a special exhibition within the framework of the fair: last year, the theme was printing; this year it was timber and wood.

The president of the fair, M. Frederick Meyvaert, was educated in this country, and takes particular interest in promoting sales of British goods in Belgium. But this year, he was not at all happy.

To publicize the timber and wood exhibition, he held a press conference in London and his London agent, R. C. Liebman, circulated letters to many manufacturers. All were very friendly—but none would co-operate. Refusing to take 'no' for an answer, M. Meyvaert asked the Design Centre to pick out 12 examples of the best British furniture. He invited the manufacturers concerned to show in Ghent, offering them free

Looking at Ghent



① Sending exhibits by one of Belgian State Marine Railways' passenger-cargo ships is much cheaper than transporting them from London to Glasgow.



② This year, the entrance was flanked by three enormous beams of colonial timber advertising the timber and wood exhibition-within-an-exhibition.



③ A timber bungalow, constructed from Swedish softwood, was raffled to visitors at this year's exhibition. It was designed by a Scotsman.



This showcase was a good idea. But it was set at the back of the stand and not one enquiry was received for the British products which it contained

exhibition space if they were prepared to pay the cost of transporting the furniture across the channel. Eleven of them accepted.

The furniture was well displayed, with a whole floor to itself. But on the opening day, there was nothing to say that the furniture was British; no indication in the main entrance that part of the show—the only all-British part—was upstairs; nobody on the stand; and no representatives of the British Embassy, or of the British Chamber of Commerce in Belgium, at the opening.

In spite of this, the goods aroused great interest and received wide publicity in the Belgian press, and orders have been flowing in. Two of the once-reluctant manufacturers have booked space at the 1957 fair, and three others have appointed agents and set up sales organizations in Belgium.

How were other countries represented at this year's Ghent Fair? The Italians stole the show with a large selection of their best products; leading Italian architects designed the modernistic display, which was artistically decorated and very eye-catching. This was a collective effort, with the Italian government footing the bill.

The U.S.A. were well represented with a highly efficient information centre. Four top American businessmen ran the stand, with the aid of local interpreters and typists. They were able to answer any questions on trade with the U.S.A., and their presence at the fair created a pro-American atmosphere.

German exhibitors' salesmen were everywhere, working hard to put over their products, even to parties of schoolchildren.

Britain's efforts, in comparison, were small. BUSINESS selected six of the 50 British names in the catalogue and visited their stands. Here is a brief stand-by-stand report.

1—A machine tool manufacturer. This was a case where the manufacturer did not know his products were appearing. The products were a lathe and a drilling machine, both (the exhibitor stated) very popular in Bel-



On one stand BUSINESS found the British product against the wall at the back. Apparently, a U.S. representative had visited the stand on the opening day, and asked for his country's products to be put at the front. Some German machines on the same stand had a section to themselves.

gium. They were the exhibitor's property and were being shown on his own initiative. BUSINESS found them, against the wall at the back of the stand. Apparently, an American representative had visited the stand on the opening day, and asked for his country's products to be put at the front. Some German machines on the same stand had a section to themselves—the commission on these machines was higher! The exhibitor—an excellent salesman—was able to answer technical questions in Flemish, French, English and German, and had sales literature in all four languages.

2—A manufacturer of welding equipment. Another case of a firm who were ignorant of the fact that their products were on show at Ghent. However, the agent seemed to be taking very little interest in them, and they were in a small showcase at the back of the stand. No orders had been taken, no enquiries had been received, and there were no facilities for demonstration. The agent explained that the products were very good, but too expensive. He relied on regular customers for business, and spoke only the local languages, Flemish and French.

3—An office equipment manufacturer The stand was run by the company's Belgian associate company—but this time with the parent company's blessing. New machines were specially shipped over for the fair, and were demonstrated working on a neat, if rather sombre, stand. Literature seemed scarce, but duplicating machines—from the firm's range—were turning out eye-catching printed matter.

Between them, the staff could cope with most languages. One of them explained that even though his company was well-established in Belgium

new contacts were made at each fair, and orders often resulted.

4—A manufacturer of refrigeration equipment. The local agent gave the product—a food freezer—a good showing right at the front of the stand. The managing director of the manufacturing firm visits the stand for one day at each year's show, but the firm provide no financial assistance.

Great interest was shown in the freezer, and the agent said that he sold about 200 a year. September was not the season for the product and he was showing it to keep it in the public eye and to attract enquiries which he knew would turn into sales next summer.

5—A manufacturer of electrical appliances. Their products were being shown—at the firm's request—on the vast Société d'Electricité et de Mécanique Stand. But they were virtually hidden by the display of U.S.A. products. The S.E.M. handle many British products, but said they did not have room to show them all. They were showing British electric fires (one had a broken element), steam and ordinary irons, vacuum cleaners and washing machines.

A member of the sales staff confessed that the presence of the U.S.A. stand had a great deal to do with the super-show of American goods.

6—A diesel engine manufacturer. Here was a classic example of the demand for British capital goods in

Belgium. The man running the stand was not a credited agent of the British firm, but a garage proprietor who foresees a great future for diesels in Belgium. The manufacturers already have an importer in Belgium, but this man wanted to get in on the ground floor. So he purchased a number of their diesels and took space at the fair to show the manufacturers that he was worth his salt.

He let them know of his intentions, and they replied that they would wait and see what he could do. He did not expect to sell any products at the fair; his aim was to make a thorough market survey, and to let people know of his existence.

But the results far exceeded his expectations. The manufacturers sent their senior sales representative to help on the stand for five days. Over 70 enquiries were taken, and the representative was so impressed with the exhibitor's keenness—and his ability to attract potential buyers—that arrangements are now being made for him to become an agent.

M. Meyvaert, the president of the fair, was disappointed at Britain's showing. In an interview with BUSINESS, he said: "The seeds now being sown will bear fruit in about five years' time—and British manufacturers' pickings will be negligible. Their negative attitude is slowly undermining British prestige. Belgium is a traditional market, a near market, and certainly a good testing market. To sell in Belgium is to prove your product.

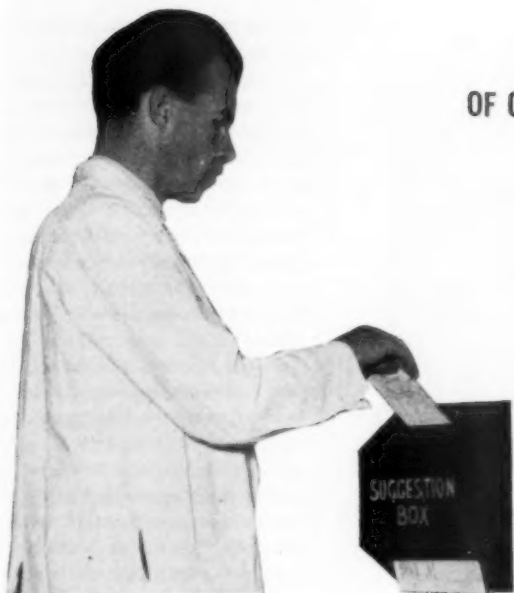
"British manufacturers today do not seem to be aware that a common European market is building up, and that my country is the nearest gateway to that market.

"Already the Germans and the

continued on page 184



One of the most important aspects of exhibiting overseas begins after the fair closes. For if the follow-up arrangements are inadequate, then a stall in Petticoat Lane would have been a better proposition.



OF COURSE Suggestion Schemes Can Pay

50,000 suggestions in 40 years . . . and nearly half of them worth adopting. Results like these are the answer to people who say that interest in works suggestion schemes invariably wanes after the first flush of enthusiasm. Here are case-histories of firms which have found methods of keeping even long-established schemes in full 'production'—and have proved that a healthy business is one in which the management want to use everybody's ideas

ONE methods engineer worth his salt can do more for a firm than any suggestion scheme, no matter how successful—and he will only cost about £1,500 a year!

This is the sort of statement which starts to undermine the confidence of the businessman who is really enthusiastic about his firm's suggestion scheme. After all, such schemes have been a feature of British Industry for nearly 40 years. Why, then, is there a new surge of interest in them?

The first reason is probably that many firms have recently re-discovered them. During the past 12 months, constant campaigns for increased productivity have resulted in large numbers of new and ingenious ideas being put forward. Mainly, it must be stressed, by work study men—but also by shop-floor workers and foremen who have been infected with the eagerness to find 'a better way' which may increase their earnings.

No doubt the Factory Jackpot competition run by a national newspaper has also wakened many businessmen to the fact that their firm's suggestion scheme was dormant or dead, particularly as it came on top of a discussion in the House of Com-

These Workers Tell Their Management 'How'

mons on the value of suggestion schemes generally.

The Industrial Welfare Society have just published a new survey which provides a sort of progress report on the suggestion schemes of 200 or more companies. It indicates that pride of place in the United

50,000 suggestions, nearly half of which have been adopted, and nearly £12,000 has been paid out in awards.

What is the reason for the high level of activity in this particular scheme? The firm say that it is because their employees are convinced not only that suggestions are welcome, but that they will be seriously considered—and also because, no matter whether the suggestion is valuable or not, the employee concerned receives a considered reply within a short time.

The suggestion box is cleared every day, which means that suggestions get almost immediate consideration in the right order of priority. The ideal, the firm say, is to consider a suggestion on the day it is received, to announce the results as soon as possible, and to pay for it on the

By ROBERT DOUGLAS

Kingdom must go to Mavor and Coulson Ltd., of Glasgow and East Kilbride, manufacturers of coal-mining equipment etc., who have been running their suggestion scheme for about 40 years. Last year, they received 108 suggestions for every 100 employees. During its whole span, the scheme has produced over

PLEASE DO NOT DESTROY THIS FORM

KEEP THIS COUNTERFOIL

GKS 9613

Write your Suggestion on the form below, sign it, tear off this Counterfoil, and then slip the Suggestion into an envelope and put it in one of the Suggestion Boxes.

Keep this Counterfoil so that you may produce it when collecting your reply or award.

NAME OF WORKER

JOSEPH LUCAS LTD.

SUGGESTION FORM

GKS 9613

Date

Your Suggestion concerns

Result of Suggestion

LUCAS WORKPEOPLE'S SUGGESTION SCHEME

1. Think for your company. The ideas which you suggest may be of great value to the company and may result in a saving of money or an increase in production.

2. Award to Suggestor. The award shall be made in the discretion of the Committee in the form of a cash award or a gift of any kind.

3. Improvement in Production. The Committee may recommend the improvement in production to the management.

4. Improvement in Safety. The Committee may recommend the improvement in safety to the management.

5. Improvement in General Work. The Committee may recommend the improvement in general work to the management.

6. Improvement in New Products. The Committee may recommend the improvement in new products to the management.

7. Improvement in Safety Appliances. The Committee may recommend the improvement in safety appliances to the management.

Check No.

Date

GKS 9613

NOTE: Four copies will be issued only to the Suggestor, except in the case of suggestions being passed on to the management.

Read the Rules

Last year the Joseph Lucas Ltd. suggestion scheme produced ideas at the rate of one for every three employees. A third were adopted—and the awards amounted to more than £17,000

following pay day. This is not always practicable, but the precept is followed out as nearly as possible.

Any suggestion that will produce a direct saving to the company is rewarded by a payment of half the estimated saving for one year. Every six months, a further payment of 25 per cent is made to the employee in each department who has earned the highest award. These supplementary payments are made at Christmas and just before the summer holidays.

Mavor and Coulson employ a full-time investigator, who looks after the suggestions and sees them through the procedure up to senior executive or board level. He also interviews employees who have not submitted suggestions and tries to encourage them, by personal explanation, to take part in the scheme.

Everything is done to make it easy for employees to offer suggestions. Every department has a station where there is a box containing cards on which suggestions may be written; at the works entrance is the box into which the card may be put to be collected on the same day. Every suggestion is recorded and given a serial number. The investigator then fol-

lows up with an interview in which the written suggestion is amplified, to make sure that no point has been overlooked; he may even consult the foreman, costing department, rate fixers and others.

The next stage is to place the suggestion before the executive into whose field it falls. He decides whether the idea should be adopted, and fixes the award or the initial payment which is made if the full value of the suggestion cannot be calculated immediately.

Finally, after a suggestion has been adopted, an announcement is issued to the employee concerned, and a copy is displayed on the notice board. Unsuccessful employees are personally given detailed explanations of why their ideas have failed to win awards. The firm emphasizes that whenever a large award or a number of small ones is announced, there is invariably a stimulus to the scheme,



Mavor and Coulson employ a full-time investigator who sees that all suggestions are considered by the right people. He also interviews employees who have not taken part in the scheme and tries to encourage them to do so.

reflected in a sharp rise in the number of suggestions received.

A point in favour of suggestion schemes is that while only a few ideas can be called outstanding from a technical point of view, there is a great deal to be gained from the cumulative effect of a large number of small improvements and savings. Other benefits are the general alertness and good morale which arise from the successful working of such schemes.

Joseph Lucas Ltd., electrical engineers, of Birmingham, have a 35-year-old suggestion scheme which now covers all the factories in their group. Last year it produced ideas at the rate of one for every three workpeople. A third of the total were adopted, and over £17,000 was paid out in awards.

Basically, the Lucas system resembles that run by Mavor and Coulson. One difference is that instead of a full-time investigator, each factory has a suggestion committee with authority to award up to £100 for any one suggestion, and to make merit awards for suggestions which, though not adopted, reveal careful and ingenious thinking.

Each committee has a secretary and an official investigator appointed by the management, but neither is full-time. The scheme includes special payments known as Directors' Awards which are additional to the original awards and are given for special categories of suggestion such as fuel economy, safety or material economy—or sometimes for the best suggestion submitted by a woman.

Last year the firm also introduced an inter-factory competition known as the Work People's Suggestion Scheme League. Ending on May 31 this year, it was judged on the ratio between the number of adopted suggestions and the number of people who might have submitted sugges-

tions in each factory. Employees in the winning factory whose suggestions had contributed to its success had their original awards repeated.

This competition had a marked effect on suggestion scheme results. The winning factory had ten suggestions adopted for every 28 work-people, and more than half the other competing factories had one or more suggestions adopted for every 12 people. The league idea is being continued this year, with the addition of a points system for particular types of suggestion, based on the same idea as the directors' awards.

The Esso Petroleum Company's scheme, run under the slogan 'Coin your Ideas,' is another good example. It is run by the Employee Relations Department from the company's London headquarters. Just as the Lucas scheme makes use of the firm's magazine *Lucas Reflections* for publicity and reports, so the Esso scheme gets frequent mentions in *Esso Employee News*, which also prints a suggestion form from time to time.

The Ford Motor Company's scheme started only last year. But in nine months the company have received over 4,000 suggestions and have paid out nearly £9,000. They publicize their scheme by means of colourful posters throughout the works. The posters are changed monthly, and carry topical slogans and pictures.

Another motor company operating a very active suggestion scheme is Vauxhall, whose employees send in an average of 30 suggestions a day. The suggestions committee has to meet twice a week to cope with this mass of ideas, and it has been found that about a quarter of the suggestions are worthy of an award. Where a direct saving is involved, the company pay out one-sixth of the first year's savings, up to a maximum of £450. In every case where the sum is

more than £10, the recipient is paid in National Savings Certificates.

Although some of the ideas produced by such schemes are quite simple, they are often very valuable as labour-savers. At Kodak Ltd. for example, a fitter devised a special pair of tongs for lifting camera cases to be sprayed, and received an award of £110. In another case, a labourer employed in gathering waste paper produced an improvement in the baling of the paper which increased the compression and raised the weight of a bale from 30lb. to 75lb. for the same volume, saving valuable storage space and making transport more economical.

Some experts who have specialized in the investigation of suggestion schemes think that there is more scope for their application in small firms than in large ones, where full-time

organization and methods officers are often employed.

All firms which are operating successful suggestion schemes emphasize the importance of publicity. There should be an explanatory booklet for every employee; there should be posters, leaflets or even banners in the canteen or some other conspicuous position; clock cards and pay envelopes should carry slogans; the house journal, the notice boards and the local press can all be used to remind employees of the opportunities the scheme offers.

Another essential is good record-keeping—a system of records which enables committee secretaries and investigators to keep a check on the duplication of suggestions, to compare the responses of different departments and different factories, and to pin-point employees who are sending in good quality suggestions and may thus be worthy of promotion. The rules of the scheme should also provide protection for the worker whose idea is worth patenting. Sometimes it is also considered necessary to have a system of appeal against the rejection of an idea.



All firms which operate successful schemes emphasize the importance of publicity. Colourful works posters often help to produce the right results.



The Lucas scheme includes additional payments known as Directors' Awards. These are given for suggestions involving such things as fuel economy, safety and material saving.

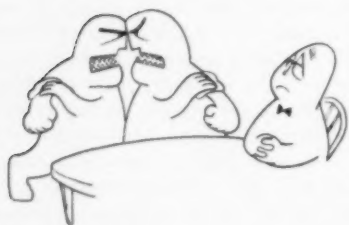


IF YOU'RE CHAIRMAN . . .

Call the meeting without notice



If you've compiled 10 pages of advance information that was sent to everyone, read it aloud and explain the footnotes.



Let Sam and Joe debate their personal differences for the length of the meeting, thus providing good clean entertainment for all.



Or, insist that Sam and Joe are really in agreement, and prove it by misquoting both of them. This will unite them in an attack on you.

How to Wreck a Conference[★]

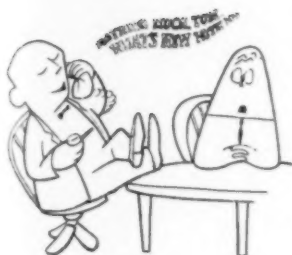
Conference-wrecking is among the most ancient of arts, dating back at least as far as the Stone Age. Some of the methods used by Neanderthal Man to break up discussion or silence an opponent are, in fact, still popular today.

To wreck the modern, highly organized executive conference, however, requires, a certain refinement of approach. Crude cave-dweller tactics have long since been replaced, in business circles, by subtler though no less effective techniques. Those outlined below—compiled from extensive research on thousands of meetings—will serve as a handy refresher course for the veteran conference-wrecker and carry the novice, whether as chairman or participant, through his first few sessions. As he gains experience and adroitness, new approaches will suggest themselves.

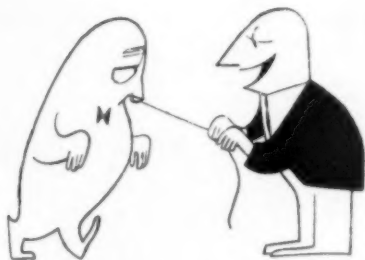


Squelch any new approach not outlined on the agenda.

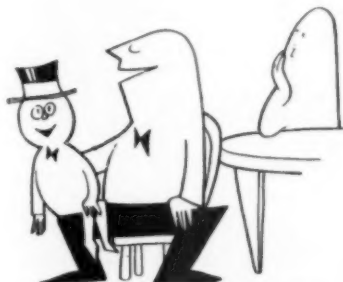
★ Reprinted from the July, 1956 issue of "The Management Review" by kind permission of the Editor, and of the American Management Association as publishers and copyright owners.



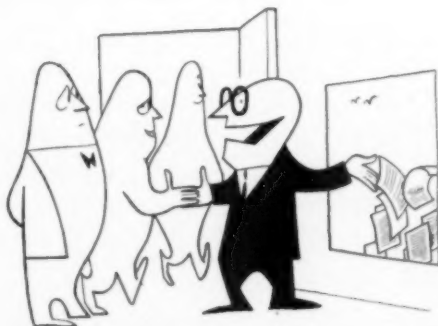
Don't snub any friends who may telephone during the meeting. Have your secretary put every call right through.



Ask leading questions, as: "You surely aren't casting doubt, are you, on the validity of the Zwibelfoos Survey?" They'll agree, to avoid admitting they haven't heard of the survey, but the meeting will sour from this point on.



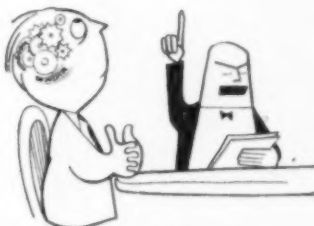
Answer all your own questions. It may take some juggling, but it's the only way to insure the right answer.



Change the decisions reached at the meeting—but don't let the others know. (It might hurt their feelings.)

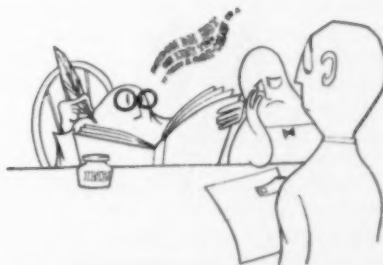
... AND TRY THESE ADDITIONAL DEVICES :

- Keep the purpose of the meeting a secret.
- Warm up the meeting by devoting the first quarter-hour to an account of your trip to the Thousand Islands. Pass around snapshots, by all means . . . souvenir matchbooks, too, if you have them handy.
- Instead of preparing information in advance, send out for each item as needed. This gives participants time to duck out for quick phone calls, from which they may never return.
- Track down all the fascinating side issues, lead where they may.
- Twist other people's remarks to suit your purpose.



IF YOU'RE A PARTICIPANT . . .

Don't listen to others: they will only confuse you. Use the time while they're talking to think up your next remarks.



Take careful notes on everything, including data, time, temperature, and barometer reading. If you don't catch every word that's said, ask for a recap.

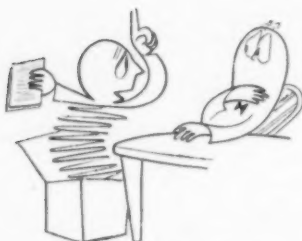
Continued next page



Defend yourself! Anyone who openly disagrees with your viewpoint probably has it in for you.



Let the chairman do all the work. It's his meeting.



Rise frequently to points of order.



Side with the majority, regardless of your real opinion.



Throw your weight around. Let them know how you feel about every subject, whether you're informed or not. They may not get much out of this, but if your voice is loud they'll know you're a man to be reckoned with.

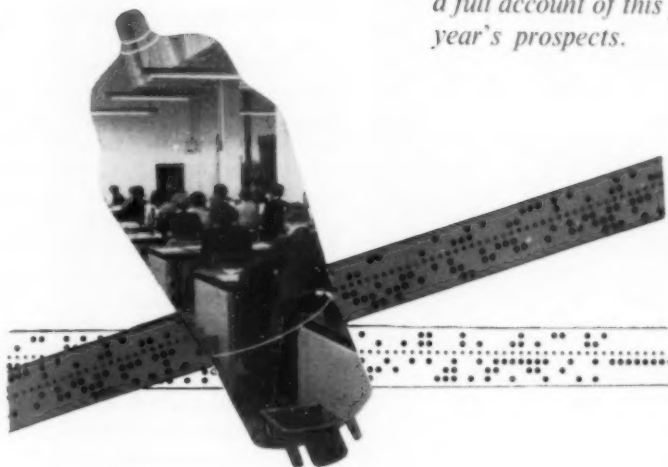
... AND IF ALL THESE MANOEUVRES ARE EXPOSED, TRY THE FOLLOWING :

- Come prepared with the only possible solution. After the first 15 minutes, consult your watch frequently. If this isn't noticed, drum your feet or tap your pencil briskly on the table.
- Bring a voluminous report (the more charts the better) on every aspect of your own operations, indexed according to sales, freightloadings, inter-modular bias correlation, etc. Each time one of these subjects is mentioned, read the appropriate section from your report.

● Text by **LYDIA STRONG**
 ● Drawings by **AL HORMEL**



After a period of behind-the-scenes activity, British-built commercial computers are at last on the point of moving into the business world. Here is a full account of this year's progress and next year's prospects.



Third Annual Progress Report

ELECTRONICS In the Office

By PETER SPOONER

It seemed that everything was 'on the brink' when the November 1955 progress-report was written; and now it seems that everything is still 'on the brink.' The development of electronic business systems in Britain has certainly emerged from the pipe-dream stage, but in some respects the position is substantially the same—on the surface—as it was 12 months ago:

▶ Much of the electronic data-processing equipment described in the 1954 and 1955 reports has still to

appear in the form of production models.

▶ The order and delivery position is confused by the caution of manufacturers and the coyness of prospective users. One or two customers may be installing British-built commercial computers when this report is published; but in October it was pretty certain that none had been delivered.

▶ Computing services (of which there are several in Britain) are still concentrating on scientific and math-

ematical problems. The small amount of commercial work which they undertake is either experimental or of the 'one shot' business statistical variety. Only in one case has a computing service taken over some of the routine office work of an independent firm.

▶ Only one British manufacturer is actually operating an external 'memory' system in which business information is recorded magnetically and up-dated each time the job is put through the computer.

▶ The only place where you can see an electronic office in operation is Cadby Hall. Apart from the LEO machine and maybe 20 computers employed on scientific work, the only operational experience of electronic data-processing is provided by the family of relatively simple electronic multipliers and calculators which has been growing steadily over a period of four years.

This summary of things-which-haven't-happened-yet dispels any idea that electronic offices are springing up all over Britain; now we can assess realistically (and less pessimistically) the progress which British firms have made in 12 months. The businessman, wearied by sensational forecasts, may decide that the combined labour of electronic engineers and office equipment manufacturers have brought forth a mouse of rather modest proportions. But at least he should be ready to revise that opinion in the light of next year's developments.

Business computing systems are moving out of the 'experimental' period. Probably the most convinc-



SCIENCE PROSPECT

ing evidence is the number of firms who are building digital computers and developing large-volume data-handling systems. You can see how much this evidence is worth by comparing the second part of the current survey with the corresponding sections of 1954 and 1955 surveys.

The Aim: Perfection. There were plenty of optimistic forecasts last year—but now it is apparent that many of them were over-optimistic. Manufacturers were beginning to appreciate that the competitive element in developing computers would soon be overshadowed by the competitive element in selling them. Maybe they were inclined to underestimate the technical problems of turning laboratory-built computers into reliable, easily-operated business accounting machines.

In Britain (more so, it seems, than in the U.S.A.) business firms expect even 'revolutionary' office equipment to undertake the work for which it is intended in a pretty straightforward manner. Seldom are they prepared to embark on a period of experimentation before they get the right results. So everything has to be 'spot on.'

Experience with big scientific computers has indicated that the user is not being unreasonable if he expects his machine to be completely free from faults during nine out of every ten hours in which it is in operation. But the problems of getting 'spot on' results are increased tremendously when high-speed input/output systems and large external 'memories' are added to the basic computing

units. And no manufacturer is going to risk his reputation by allowing a machine to leave his own workshops until each of its many components has been tested and proved conclusively.

Input/Output Systems. Much attention is being directed to the development of more efficient methods of getting information in and out of a computer. The emphasis is on magnetic tape systems, like those which Remington Rand, I.B.M. and others have already established in the U.S.A. A number of British firms are developing systems of this sort.

The big advantage of using magnetic tape is that a number of units can be connected to one computer, providing an efficient method of storing the large quantities of accumulated information to which (in most accounting operations) a relatively small quantity of new information has to be applied. Whereas in punched card storage systems the accumulated records are up-dated only by punching a new pack of cards, information stored on magnetic tape can be erased and re-written in the same way as corrections are made on an office dictating machine.

But even tape systems have their limitations—apart from the problem of keeping the reading and writing heads in A.I. condition. Despite the high speed at which the tapes are scanned, the computer cannot pick odd items of information from different parts of the 'memory' without holding up its other functions. So input data has to be arranged in a

predetermined sequence and batch-processed.

American firms are now overcoming this limitation by developing random-access storage systems which allow accounting information to be processed continuously in the order in which it is received. One of these systems—eventually to be made available in Britain—is described on page 103.

Punched paper tape is used in many cases as a means of feeding 'change' information into a computing system which incorporates either punched card or magnetic tape units. This form of input is by no means as slow as most people think. Photo-electric punched tape readers can operate at speeds of up to 200 characters per second.

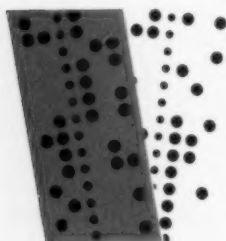
Moreover it must be remembered, when comparisons are made, that *all* the tape is used for recording information, whereas in punched card input systems some of the capacity of each item card is almost invariably wasted.

But the big attraction of punched tape is that it is a 'common language' medium. Tapes can be prepared automatically as a by-product of ordinary figure reading operations, teleprinted from one point to another, and finally processed by a central computing system.

That, very briefly, is the principle of 'integrated data-processing.' Unfortunately some people are accepting the principle of the idea without considering its practical elements. To suggest that any old typing or machine-posting operation can simultaneously produce a computer tape is nonsense. The idea has big possibilities, but much planning and re-organizing has to be undertaken before these possibilities can be exploited.

On the horizon are input systems which will enable computers to accept information in ordinary numerical or alphabetical form. An American bank is already using an electronic character-recognition device which automatically reads the serial numbers of cheques.

Several British manufacturers have more than an academic interest in



Experience with big scientific computers indicates that the user is not being unreasonable if he expects his machine to be completely free from faults during nine out of every ten hours it is switched on.

this idea. One firm, the Solartron Electronic Group Ltd., are in fact on the point of completing a prototype of a machine which will read type-written figures, (alphabetical characters and symbols will come later) produced on an ordinary typewriter. Production models may be available next year, and it seems that some commercial applications are already lined up.

A note of caution however—in case anyone gets the impression that computers will soon be reading business documents with the fluency of a battery of clerks! For some time the practical applications of such devices will be restricted to accounting operations where all the information required can be taken from one line of each of the original forms.

A feature of the big American computing systems is that they incorporate ultra-fast printing units. Some of the British manufacturers are inclined to the view that the printing-out of results should generally be considered as a separate operation. They believe that even 'slow' methods of converting input or output data from one form to another will usually be acceptable, as long as they do not hold up the actual computing operations. And, of course, there will be many applications where the criterion of success will be to get the machine to print out as little as possible—only the off-standard results which should be brought to the management's attention.

Time to Consider. The waiting period has given manufacturers, potential users and others a chance to



The first Ferranti Pegasus computer has been in operation for some time at the manufacturers' London computing centre. Commercial models are to appear within the next 12 months.

consider more carefully the business 'areas' in which it may be profitable to set up electronic computing systems. Generally it is agreed that too much emphasis has been placed on the automatic preparation of payrolls. For on jobs like this a computer cannot really improve on the results obtained with conventional equipment—it can only produce them faster and cheaper.

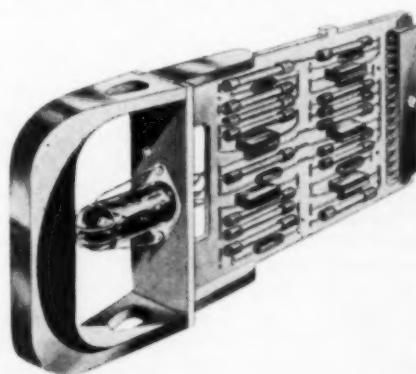
Nevertheless there is evidence that electronic wage accounting will be regarded as a worthwhile operation by some of the large firms which install computers. Lyons' experience in this field is borne out by an investigation made recently at the

National Physical Laboratory. This took a hypothetical case: the employment of a *Deuce* computer (plus the magnetic tape units now under development) on a section of the weekly payroll of the Ministry of National Pensions and Insurance. One of the broad conclusions was that it would be worth installing a fully automatic computer system for wage accounting alone where the size of the payroll exceeded 5,000 employees.

More exciting, however, is the prospect of doing things which cannot be done satisfactorily at present. Certainly the use of computers will make possible new and more precise methods of production planning and control, and of everything which is implied by the generic term 'management accounting.' It should also lead to the development of much closer co-ordination between market research, market intelligence and manufacturing operations.

Standards will be set; and the machine will determine whether or not they are being achieved. If they are, it will get on with something else—and management will be relieved of the unnecessary task of scrutinizing masses of data. This

In most production machines the use of 'packaged' units simplifies maintenance problems. This type is featured in the new Stantec-Zebra





tion than any operations which may be regarded as a greater attraction simply reduce the clerical wages bill!

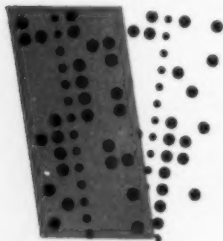
The Advance Guard. A cautious estimate (in the absence of anything like full information) is that more than 100 British firms have actually ordered computers of one sort or another. Much of this equipment is earmarked for commercial work. (But it remains to be seen how many firms will be using computers when the 1957 progress report is written.)

Probably the most impressive order is that placed by Imperial Chemical Industries Ltd. They are to get a mixed bag of five small or medium-sized computers, four of which will be employed primarily on clerical work. The exception is an Elliott 402 scientific computer.

It seems that I.C.I. have frowned—at least initially—on the idea of a big central computing system, like those which some American companies have set up. An Elliott 405 will take over the weekly payroll of about 7,000 employees at the Nobel Division, Ardeer. An IBM 650 will be used elsewhere for material control and costing. A Ferranti Pegasus and a Hollerith Hec 4 will undertake work concerned with labour statistics.

Three of the commercial models will have magnetic tape auxiliary storage systems.

Two other firms which have ordered Elliott 405 computers are Littlewoods Mail Order Stores Ltd. and British Insulated Callender's Cables Ltd. The former will use their machine for stock control; the latter for wage accounting.



I.C.I. are to take a mixed bag of five small or medium-sized computers, four of which will be employed primarily on clerical work. All of them are due to be delivered within the next ten months.

These Are the Machines British Firms Will Use

Large sections of the 1954 and 1955 progress reports were devoted to the development of electronic data-processing systems in the U.S.A. This year's report is concentrating on British activities.

Here is a quick-look-round at the sort of machines which your firm or your competitors—may be using in the near future. Detailed technical information is not given; if required, it can be obtained from the manufacturers. But BUSINESS will be pleased to answer any general questions by post regarding the development and use of commercial computing systems.

At Cadby Hall, the original LEO installation has been producing further evidence that electronic computer systems can now handle routine office jobs on a daily or even hourly schedule. The scope of its work—for Lyons and for other firms—has widened considerably during the past year.

LEO began its commercial life by handling a section of Lyons' payroll because this, in its sponsors' view, was the best way of proving the machine's capabilities: payroll was one job which had to be done accurately and on time. Since then, however, the computer has absorbed other routine jobs. The processing and costing of daily orders from

Lyons' London tea shops was mentioned in last year's survey. More recent additions are:

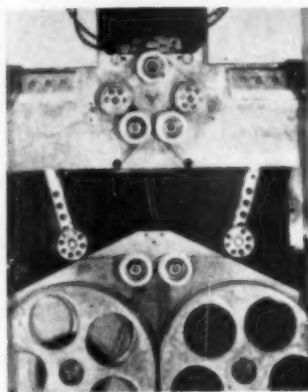
1—Preparing the invoices, cash collection lists and other documents for transactions with the bakery customers called on by a number of Lyons' travellers. No ledgers are kept: LEO does the whole job.

2—Weekly analysis of the quantities of ice-cream delivered to retail customers by the company's vans. This determines whether or not the frequency of calling on individual customers should be varied (taking into account the capacity of the customers' ice-cream cabinet) and thus enables the vans' journeys to be planned most economically. Only cases which need reviewing are thrown out during each analysis. As a by-product, valuable statistics are made available to the sales management.

But payroll is still one of the most important operations. At present it involves about 11,000 of Lyons' 35,000-odd employees. While this is only a small increase on last year's figure, since December LEO has also undertaken—on a service basis—the complete payroll calculations for more than 5,000 employees of the Ford Motor Company. The time-cards of these employees arrive at Cadby Hall on Saturday morning and are processed over the weekend, printed payslips are delivered to the Ford's works on Monday morning.

For LEO, 1956 has been a busier-than-ever year. Its scheduled work is balanced by 'random' jobs of various kinds for insurance companies, research establishments, nationalized industries and other clients. The machine has average 100 productive hours a week on a three-shift

The Elliott 405 is the first British machine to use a large-volume magnetic storage system. A number of 'memory' units—using oxide-coated 35mm. film—can be incorporated in one computing installation



basis, excluding the time allowed for testing and maintenance.

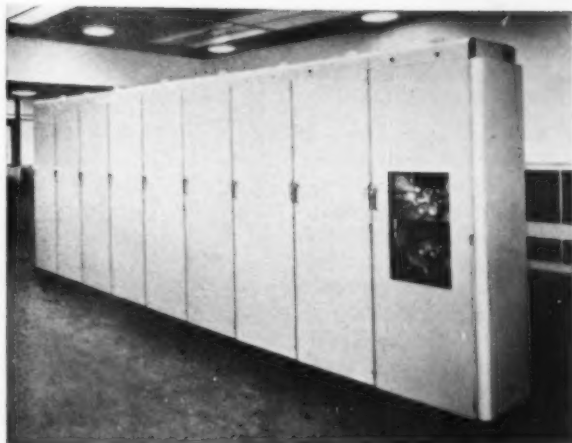
The development work started by Lyons in 1948 is now the responsibility of their two-year-old subsidiary, Leo Computers Ltd. A prototype of a new transportable model, to be sold to outside firms, is at present undergoing its final tests. The first production models will be installed next year.

LEO II is more compact and more powerful than the original machine. But few of the basic features have been changed in the light of operational experience. Significantly, the new model still uses mercury-delay lines as a 'fast' store, has punched paper tape and punched card input devices, and either punches its results into cards or prints them.

★ ★ ★

During the past six months, the British Tabulating Machine Co. Ltd. have announced two developments which indicate that their interest in electronics is expanding considerably. First, the formation, in association with the British General Electric Co., of a new development company concerned primarily with the application of computers to process control and other forms of factory automation. Then the formation, in association with the Laboratory for Electronics, Boston, Mass., of the International Computer Corporation Inc.

NOVEMBER, 1956



The president of the Anglo-American corporation is a B.T.M. executive. Although the arrangements were concluded only a few months ago, this project has been under way for a much longer period.

The new corporation's first job is to complete the design and development of a new computer, said to possess novel features. This work is already at an advanced stage, and the first machine is due to be delivered to the Chase Manhattan Bank of New York next year. The second—the B.T.M. company's prototype—is expected to reach the U.K. soon afterwards.

Meanwhile, the company's original electronics programme is making steady progress. The *Hec 2M* computer, designed for scientific work, has been in full production for some time; indeed B.T.M. are in the unique position of having actually installed seven of these small, relatively cheap machines.

The appearance of the *Hec* general-purpose computer has been slower than was originally expected—although this has allowed time for really extensive proving tests to be made. Soon, however, the first of these machines will be delivered to a large manufacturing company, who propose to use it almost entirely on routine business work; another is to be installed at one of B.T.M.'s London offices, where it will be used mainly for demonstration purposes. The company anticipate that these

machines will be in full production next year.

Also to make its debut in 1957 is the *Hollerith 555* electronic calculator. This is a development of the 550 calculator described in previous surveys. Although it retains the principle of plug-board programming and functions as a unit of a punched card installation, in many respects the 555 will permit 'real' computing techniques. It has a magnetic drum store.

Understandably, the company have directed much of their attention at punched card input/output systems. But they are not irrevocably wedded to this form of data-handling. Machines under development by the International Corporation will, in fact, have magnetic and paper tape systems, and similar units may eventually be added to the *Hec* range of equipment.

★ ★ ★

Now on the point of installation is the first batch of *Programme Controlled Computers* built by Powers-Samas Accounting Machines Ltd. Although the number—four—is smaller than the target set 12 months ago, the company say that the full production programme is gathering momentum and that a much larger number will be installed in 1957. The machines in the first batch were laboratory-built, and various modifications have delayed their appearance.

One of them is to handle a payroll



SCIENCE PROSPECT

at the Swindon headquarters of British Railways Western Region. Another will be employed on materials scheduling by a large manufacturer of electrical goods. This firm make an exceptionally large range of products, many of which include similar components, and the machine's job will be regularly to calculate the total 'call' for each component, after taking into account such factors as the stock position, the number earmarked for current orders the delivery rate, and the manufacturing scrap allowance. It may also have to decide whether or not the 'call' represents an economic batch, and adjust its results accordingly.

The third machine will be employed on material scheduling by another electrical engineering firm; in addition, it will undertake payroll and labour costing jobs. The fourth will be used by a French organization for the calculation of copyright fees, etc. on the huge number of literary and musical works which they control.

The collaboration between Powers-Samas and Ferranti is not expected to produce new machines 'in the field' for some time. In effect, research teams from the two firms are engaged on a five-year development programme: the Ferranti team are concentrating on computing systems and the Powers-Samas team on input/output systems—not necessarily based on the use of punched cards. The work of these two teams will eventually result in an integrated form of equipment covering all aspects of data-processing.



Under an arrangement announced in June this year, the *Elliott 405* unit-construction electronic data-processing system—now in regular production—is being marketed in Britain by Electronics Division of the National Cash Register Company Ltd. A demonstration installation, which has been handling the Elliott payroll for about nine months, was recently

moved to N.C.R.'s London headquarters.

This tie-up is not simply the case of an electronic engineering firm distributing their products through an established office machinery company. N.C.R.'s main contribution lies in the fact that they already possess a wide range of high-speed, data-originating equipment in the form of accounting machines, adding machines and cash registers connected to their own specially developed, automatic data-encoding punches. These perforating units enable N.C.R. keyboard machines to produce punched paper tape for computer input as a by-product of the posting and figure-handling operations for which they are expressly designed.

The principle of 'integrated data processing,' based on common-language tapes, is also used in the *Natron* computing system developed by N.C.R. for their United States domestic market; and it is reasonable to suppose that future developments in *Natron* design will eventually be reflected in the Elliott-built product.

One of the most important features of the available equipment—now known as the *National-Elliott 405*—is that it incorporates a high-capacity magnetic film store. Random searching for information is avoided by automatically locating random input data in the desired sequence on the surface of a magnetic drum or disc store, thus enabling the new data to be processed in the same sequence as the historical data on the film.

The addition of magnetic film storage units is only one of the ways

in which the *National-Elliott 405* can be expanded into custom-built systems to suit specific requirements. For the system can be coupled to any selected type of input and output equipment, including ancillary units designed for use with punched cards.



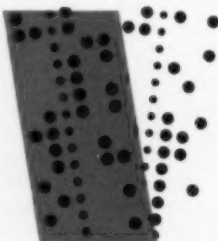
For some time IBM United Kingdom Ltd. have been marketing relatively simple electronic equipment like the 626 and 604 calculating punches. Now they are building their electronics programme around a larger, more versatile machine: the 650 magnetic drum computer.

Over 350 machines of this series are already working (most of them in the U.S.A., of course), and approximately 1,000 are on order. Before long, they will be made in Britain at IBM's Greenock factory. At least one American-built machine has been installed by a British firm during the past 12 months.

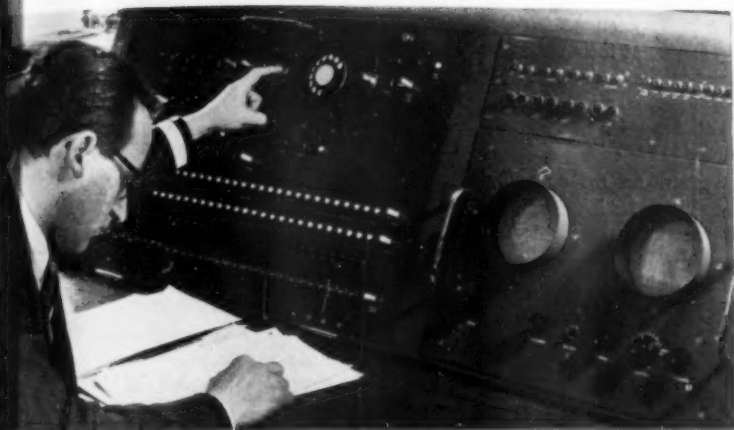
Basically a medium-sized digital computer with punched card input and output, the 650 can be linked with other units from the IBM range of accounting machines. Its data-handling capacity can be increased tremendously by adding up to six magnetic tape units of the type used in the 700 series of giant computers.

A 650 will be the centrepiece of the computing service which IBM are to open shortly at their new London showrooms. It will handle both commercial and scientific calculations.

A new range of IBM electronic equipment includes two machines which have been designed for the continuous 'in line' processing of large quantities of business information. Known as *RAMAC* and *RAM 650*, they incorporate the



A big attraction of punched paper tape is that it is a common-language medium. Tapes can be prepared as a by-product of ordinary figure-handling operations, teleprinted from one point to another, and finally processed by a central computing system.



magnetic-disc 'memory' device which IBM announced as experimental last year. The basis of this device is a stock of 50 magnetic discs arranged in much the same way as the records in an automatic player; hence the nickname 'juke box memory' which it has already earned in the States.

The great advantage of the new random-access store system is that the computer can get at the information which it needs without having to scan intervening records. Accounting information can be processed just as soon as it is received, and not—as is usually the case—after it has been accumulated and sorted into batches.

RAM 65 is a 650 computer plus four of the new random-access memory units with a total capacity of 24 million digits, the equivalent of a file of records stored on 300,000 punched cards. RAMAC, the first completely new IBM data-processing machine to be announced since the 705, has been designed around the magnetic disc system and has a storage capacity of five million digits.



With the setting-up of a *Univac* European computing centre at the Battelle Institute, Frankfurt, Germany, the now-famous range of computers made in the U.S.A. by Remington Rand has taken a big step in the direction of the British market.

Opened only a few days ago, the new centre is using a *Univac I* general-purpose data-processing

machine. It will handle business, scientific and mathematical work—on a time-hire basis—for organizations in Britain and on the Continent. In addition, it will support a comprehensive series of instructional courses which are to be given in English.

The machine incorporates the high-speed printing unit described in last year's survey. The nucleus of its library of programmes and sub-routines will be obtained from *Univac* computing services in the U.S.A., but others will be developed to suit the specific requirements of European firms. In the U.K., Remington Rand will survey jobs put forward by potential users.

Since the introduction of *Univac II*—faster and more versatile than the original machine—Remington Rand have announced several important developments, including the produc-



Slot-machine programming: the Powers Samas Programme Controlled Computer employs an unusual system in which special programme boards, inserted before the job begins, are sensed continuously

The English Electric Deuce was originally designed for mathematical and scientific operations. But magnetic tape units—now under development—will make it much more versatile

tion of an all-magnetic 'valve-less' computer in the lower-price range. It uses tiny devices described as 'micro-ferroactors.'



Although Ferranti Ltd. have made and installed more computers than any other British firm, most of their attention has been directed at scientific uses. Nine of the original *Mark I* series have been installed and this model is being superseded by the big *Mercury* computer, evolved in collaboration with Manchester University.

Now Ferranti are moving into the commercial field as well. The versatility of *Pegasus*, their medium-sized, medium-priced 'packaged' computer originally designed for mathematical calculations, is to be increased by the addition of magnetic tape storage units. At the same time, two special business data-processing machines are being designed and built for overseas customers.

Pegasus, which costs about £45,000, is already in production. The first machine (a combined prototype and pre-production model) was installed about seven months ago at Ferranti's London computing centre. The second was delivered recently to an outside organization. Next year Ferranti plan to produce this model at the rate of one a month. More than 20 have already been sold.

In its present form *Pegasus* has punched paper tape input and output devices. The magnetic tape system should appear on the market within the next 12 months; plans are now being made to install prototype units at the computing centre. Generally at least four units will be used with one machine.

There will be two commercial models in the first batch of 20 *Pegasus* computers. In addition, two special data-processing machines—named *Perseus*—are being built for insurance companies in Sweden and South Africa. Larger than

Pegasus, they will have: (1) punched tape and punched card input; (2) magnetic tape external storage; and (3) punched card and high-speed printer output. Whether or not *Perseus* becomes a standard production model depends on the demand for machines of this type.

The *Pegasus* at the London computing centre is available on hire at the basic rate of £50 an hour when clients do their own programming.



A magnetic tape auxiliary storage system is being developed by the English Electric Co. Ltd. It will enable the company's £43,000 scientific computer, *Deuce*, to handle commercial work much more effectively than it is capable of doing in its present form.

Six of these machines are already in operation, two of them in English Electric's own establishments. About four months ago, the Bristol Aeroplane Co. became the first private firm to take one; they are using it in their mathematical research laboratories. Another batch of five machines—all full production models—will probably be delivered during the next year.

Deuce uses thermionic valves and 'conventional' circuitry; the company consider that transistors, printed circuits and other 'new' devices are only now approaching the stage of development where it might be profitable to incorporate them in a machine of this type and size.

Information is transferred in and out of the computer by 80-column punched cards. Machines sold for commercial use will have magnetic tape input/output when this system is available.

For about 18 months the company

have been operating a *Deuce* computing service at their research laboratories at Stafford. Since May, this has been augmented by another service bureau in London. The basic fee is £30 per computer-hour. Users can draw on the company's programming facilities; alternatively, they can take over the machine lock,

REPRINTS

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stock and barrel for the hire-period.

The bureaux have concentrated on engineering design and scientific calculations—many of them concerned with the company's own projects at home and overseas—and will continue to do so until the tape system appears. But a fair amount of statistical work has been undertaken.



A new name in the electronic computing field is Decca Radar Ltd. Units of this company's C.I. computer, designed for scientific calculations, were shown for the first time at the Physical Society Exhibition in May. A prototype is now being assembled and tested at the offices of Decca's new computing section, where it will be used primarily for demonstration and experimental purposes.

Decca are very interested in business applications, and a commercial version of the C.I. is being developed. It may be finished before the end of next year.

Because of their late start, Decca are behind their competitors in some respects. But in one respect, at least, they claim to have made outstanding progress. This is the development of a magnetic tape external 'memory' system. Their tape unit—already in existence—is similar, it seems, to those used by some computer manufacturers in the United States. A number of units can be connected with one computer.

In the scientific machine, input is by punched paper tape and output by either electric typewriter or teleprinter.



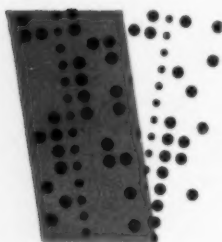
Another name which is appearing in an 'Electronics in the Office' progress report for the first time is Standard Telephones and Cables Ltd. They are manufacturing a general-purpose digital computer designed and developed in collaboration with the Netherlands Post Office.

Known as the *Stantec-Zebra*, it is a three-unit machine with punched paper tape input and punched tape or direct printing output devices. Under development, however, are ancillary units which will extend its scope considerably.

The production position is rather vague, but the firm say that a recent extension to their Newport premises has provided new facilities for this purpose, and that they are now in a position to give reasonable delivery. The machine is described as being 'economical in price.'



One computer which has disappeared from the horizon is the *Plessey Electronic Payroll*, mentioned briefly in our 1955 report. Detailed information concerning the *P.E.P.* was first released at the Office Management Association's national conference in May last year, when it appeared that the machine would soon be taking over wage accounting procedures at the company's main Ilford factory. Now it is reported that a Plessey computer will not be available in the near (or, it seems, distant) future, since the company's work in this field is being directed entirely to the development of components.



If the machine finds that pre-set standards are being achieved in whatever operations it is considering, it will not print out the results. Thus the management will be relieved of the unnecessary task of scrutinizing masses of information.

He Follows Up Good Ideas

By LEWIS KONRAD

Paul N. Matton, 54-year-old managing director of Trico-Folberth Ltd., found his uneventful training in finance a good background for an outstanding sales career in which he has used many novel techniques and gimmicks, described here



PAUL N. MATTON
A bank clerk becomes a 'ringmaster'

SELLING windscreen wipers is hardly the sort of job which you would expect a businessman to take after spending more than eight years with a firm of merchant bankers. But that, very briefly, is the career of 54-year-old Paul N. Matton, managing director of Trico-Folberth Ltd., manufacturers of motor car accessories. It was the experience he gained during his early business life—steeped in the atmosphere of finance and commerce—which later enabled him to exploit fully his natural flair for salesmanship. And although the phrase "selling windscreen wipers" may seem a little undignified for a managing director, it should be placed on record at once that the remarkable success of the company's products in the world's market is largely the outcome of Mr. Matton's own efforts in this direction.

The pattern of his career is not as ill-fated as the bare facts might suggest. Born in Antwerp, Mr. Mat-

ton came to England as a boy of 12. He was a talented student, and won a scholarship to the University of London.

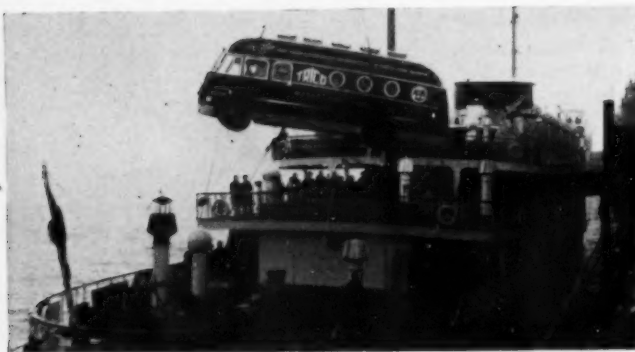
On leaving the university, he joined a firm of merchant bankers. For eight years, during which in 1923

he became a naturalized British subject, he worked on foreign exchange and the stock exchange side of banking. "This was probably the most uneventful period in my life," he says now. "But by the time I had completed eight years, I had a pretty thorough grasp of most financial and economic problems."

His next step was a perfectly logical one: he entered the stock exchange as an arbitragist, managing his firm's foreign department. Later, he joined a brokerage firm with main offices in Montreal and Toronto, from which he was sent to the Continent of Europe to sell Canadian



Mr. Matton personally briefs his sales force. Often he uses photographs he has taken on his travels to illustrate new sales gimmicks and to keep his salesmen up-to-date with competitive activities.



The Trico 'travelling circus' was Mr. Matton's idea for taking his company's products to the main Continental buyers' doorsteps. Inside this van is the exhibition stand shown on page 88.

bonds. The advantage of being a bi-linguist helped him considerably in 'selling' Canada. Twenty years later he was to re-visit the same cities and towns as a salesman, not of Canadian equities, but of windscreen wipers.

In the summer of 1930, Mr. Matton took a holiday and visited the land of his birth. Whilst there, he noticed the widespread use of wing guards—the little sticks with red knobs on the end which motorists were fitting to their front near-side wings for gauging the width of a car. This device had been patented in Belgium, and to many people it must have seemed little more than a gimmick. But Mr. Matton saw distinct possibilities in taking out a license to develop and manufacture wing guards in England.

His decision was soon proved to be a good one. Width indicators in scores of shapes and sizes caught on in England, and the firm which he founded, Wingard Ltd., was a success. But this enterprise did not take up all of Mr. Matton's time, so he looked around for other motor accessories which he could add to the business. As a result he became a distributor for Trico-Folberth windscreen wipers.

At this stage of his career, Mr. Matton's remarkable ability to sell came right to the surface. Before very long his organization were selling more windscreen wipers than Trico's own sales staff. And this did not pass unnoticed by the management of Trico-Folberth Ltd.

In 1933, the company invited him to become their sales manager, and take over the sales side of the business lock, stock and barrel. He accepted and almost immediately sales began to soar. "An amusing thing," says Mr. Matton, "was that they had forgotten to discharge my predecessor. So for a few weeks, we dealt out the correspondence—one for you, one for me—and generally shared whatever work there was to be done."

Paperwork Came Easy

As a sales manager Mr. Matton had a big advantage: the paper work and commercial problems which would have tied many men to their desks for the best part of the day came easily to him, in view of his past experience. So he was able to spend a great deal of his time on out-and-about selling operations and developing a sales force.

Just as he was getting into his stride, the second world war came along, and selling had to take second place to production. Trico began producing goods for the Army, and

for Civil Defence units. One of their main products was a headlamp mask, and they were set a daily target of 10,000 masks. It was, of course, a difficult period.

Yet in his leisure hours he started the little 'black book,' which later was to become well-known to his colleagues. Whenever he got an idea for a new sales method or gimmick, he entered it in his book. Soon he had a long list of ideas—all waiting for the time when they could be applied.

After the war, the company gradually got back to normal production. At that time, the management had a distinct engineering bias. The managing director was an engineer, as were most of his senior executives; in fact, the production management outnumbered the sales management by three to one.

In 1946, however, the managing director resigned and the American parent company invited Mr. Matton to take over.

He accepted. Says Mr. Matton: "It was a very nerve-wracking experience. Quite naturally, there was a certain amount of loyalty to my predecessor, and when he left, some of the key men went with him. I was worried and upset about this, and on my first morning in my new post, I was sitting in my new office, when I noticed an eerie silence from the works. I immediately thought, 'Goodness, they've all left!' and dashed out into the works to reassure myself. Thank heavens they were still there—it was the morning tea break."

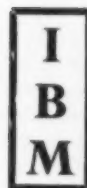
Soon, however, the initial difficulties were overcome.

Mr. Matton believes in driving his colleagues hard—but at the same

Mr. Matton's City experience meant that the paperwork which would have tied many sales managers to their desks for the best part of the day came easily to him. So he was able to spend a great deal of his time on out-and-about selling operations and developing a sales force.



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- Duration of impulses provides ample time for operation of every kind of electric time unit, including time recorders, large clocks and other time equipment.



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SHOWROOMS: BIRMINGHAM, MANCHESTER, LEEDS AND GLASGOW. FACTORIES: LONDON AND GREENOCK

EMBER, 1956



Mr. Matton admits that free gifts alone do not make sales, but they keep the name in front of trade buyers.

time he is scrupulously fair and rewards where a reward is due. He has given the company an impetus which has reached, like ripples on a pond, right down to the man on the shop floor.

The only working director, Mr. Matton runs the firm with the assistance of ten senior executives. Now, however, the tables have been turned, and salesmen outnumber engineers by three to one. His own specialities are selling, publicity, export and finance—for engineering matters he relies on the advice of a technical consultant. His comment on the present set-up—preceded by a chuckle—is typical of the man: "Watch the turnover—the rest will look after itself."

Mr. Matton feeds a continuous stream of ideas to his executives. His little black book is now an established feature of the organization. In it he will note an idea, then talk to the person concerned and ask him to give it consideration. In a few days, he sends for that person and asks him what decision he has reached. If the person has decided against the idea, he will let it rest. But nothing is ever deleted from the black book. Months, or even years later, the same person may be sent for and asked what further ideas he has on the subject and what he has done about them.

A casual remark in the staff dining room, in the corridor, or at an executives' meeting, often results in another entry in the black book—

and woe betide anybody who has not followed up a good idea!

Mr. Matton took over the company at the time of a sellers' market. Trico were one of two companies producing windscreen wipers and direction indicators immediately after the war, and the demand was terrific. The German and Italian manufacturers had not got under way, and at one time, orders for 250,000 direction indicators were outstanding. Raw materials were scarce, and the only way to get them was to export. However, their one factory with 400 employees found difficulty in coping with demand, and because of building restrictions in 1948, the American parent company shipped over a gift of a pre-fabricated factory building weighing 88 tons.

An Eye to the Future

With an eye to the future, Mr. Matton had exhibited his firm's products at the 1947 British Industries Fair. Trico were one of the first two companies to show motor car accessories at the B.I.F., and this showing was to be the start of an intense selling campaign in many parts of the world. Outspoken on the sub-

ject of selling abroad, Mr. Matton feels that three basic faults bedevil many British export programmes—"A wrong attitude of mind, a hesitancy to accept new designs and, more than anything else, a haphazard and antiquated sales policy."

Certainly he has tried to avoid these faults in planning Trico's overseas sales campaigns. In 1948, the original B.I.F. stand went to Brussels and Geneva, as well as to the ordinary and commercial motor shows in Britain. In 1949, he added Glasgow to the itinerary; in 1951 Paris; in 1953 Turin; and in 1954 Amsterdam and Stockholm.

Mr. Matton explains his policy by saying: "We started poking our noses into overseas markets and found that our products were being smothered by the many lines handled by our agents. It was obvious that we had to take the products ourselves to all the major Continental motor shows. I decided that we should design, build and transport our own collapsible display stand in a special van. In fact, we take Trico products to the main Continental buyers' doorsteps."

This now becomes the company's principal overseas selling method. To Mr. Matton, the display stand



are a travelling circus, and he uses the methods of a circus ringmaster to attract attention to them.

During the past two years, the circus has appeared at Brussels, Amsterdam, Copenhagen, Geneva, Stockholm, Turin, Frankfurt and Paris, also at the B.I.F., and the Glasgow and London motor shows. At Turin, Mr. Matton learned a valuable lesson. Decorated with fountains and flowers, the Trico stand was so attractive that passers-by stopped to admire the effect and omitted to look at the exhibits. The lesson: the setting must not distract from the stone.

Mr. Matton travels extensively himself, believing that personal contact with customers and agents—and personal observation of new designs—is the only way of keeping up with the fast-moving motor industry.

Very seldom does he really take time off from his job. While travelling in Italy, he may see a new type of illuminated sign: down it goes on his list of ideas for the next exhibition stand. In a Paris nightclub, the design of a menu may catch his eye: a few days later Trico's advertising manager will have a copy on his desk and a memo asking if the design can influence the presentation of a new catalogue cover.

Even Mr. Matton's hobby—photography—plays a part in the never-ending business of collecting ideas. He takes flash-light photographs during his trips round continental motor shows, and uses them at sales conferences to illustrate design features, gimmicks and other points from which his company may learn new sales techniques, and keep abreast of competitive activities.

The policy of taking goods to the customers' doorsteps has paid dividends: more than half the company's output is sold overseas. Every car which leaves the Fiat works at Turin is fitted with Trico wipers. In fact

Even during the war, when all the emphasis was on production and none on selling, Mr. Matton was preparing for the day when selling would again count. Whenever he got an idea for a new sales method or gimmick, he entered it in his little 'black book.'

car manufacturers in many parts of the world are using Trico wipers as standard equipment.

Naturally the British company have no dollar market. But where they share an overseas market with their American parent there is friendly competition.

Mr. Matton's sales philosophy is simple. "Quality goods do not necessarily sell themselves. The man who shouts loudest sells the most. I decided to shout." He believes that apart from the orders which it brings in, his travelling circus is a great prestige-builder. At all motor shows, his export manager holds technical conferences and pep talks with his agents and their salesmen to explain the latest lines, thus establishing a personal link with the men on whom the sales depend when the show is over.

Safety Campaign Launched

From his own experience as a motorist, Mr. Matton came to the conclusion that worn-out wiper blades constitute major hazards on the roads. So he decided to launch a campaign warning motorists to 'Replace Your Wiper Blades Once a Year,' known familiarly throughout his company as RYBOY. While this campaign is obviously aimed at increasing sales of Trico products, he is convinced that it will have a good effect on road safety. To make it successful, he has used a variety of sales gimmicks. Trade buyers of wipers may also receive a pack of cards, a slide-rule currency converter, sachets of leaf soap, a duster,

book matches, or a special Continental touring guide.

This touring guide was devised by Mr. Matton after he realized that many British motorists visiting the Continent are confused by Continental units of measurement concerning tyre pressures, temperatures, distances, speed, petrol consumption, weights and measures, and currency conversion. So he condensed them all on to one card which fits behind a sun visor, added a note about RYBOY, and made them freely available to all motorists travelling abroad.

But he is the first to admit that free gifts don't make sales. He uses silent salesmanship to a great extent in the form of a variety of modern eye-catching displays and showcards for use by garages.

From his stock exchange days, Mr. Matton knows better than to put all his eggs in one basket. Foreseeing the rapid progress which has taken place in the development of diesel locomotives, he stepped up the sales of heavy-duty wipers designed especially for railway use. Now, all Belgian National Railway diesels are fitted with Trico wipers. This part of the business has grown rapidly over the past few years, and has proved a useful additional market to the motor car business.

Under Mr. Matton's leadership, Trico-Folberth Ltd. has grown into an organization employing 1,300 workers, working at full pressure in seven factories.

Mr. Matton has accepted the challenge of foreign competition. Fluctuations in the motor world may cause concern for some, but Mr. Matton has fought for his share in the market, and intends to keep it. His future sales policy is summed up in one of his selling slogans: "If you can't see where you're going—you'll never get there!"

END

Mr. Matton's sales philosophy: "Quality goods do not necessarily sell themselves. The man who shouts loudest sells the most. I decided to shout."

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What does happen when you turn to Emidicta Network correspondence?

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Birmingham Sales Office: City House, 111/117 John Bright St., Birmingham 1 (Mid. 1921)
South Sales Office, 135 Renfield Street, Glasgow, C.2 (Douglas 6061)
North Region Sales Office, Regent House, Cannon Street, Manchester (Deansgate 2115)

MANAGEMENT AT WORK

Self-Selection

WHEN Hurseal Ltd. advertised for two representatives earlier this year, they received about 200 replies. A quick preliminary 'screening' ruled out the really hopeless applications at once. The remaining candidates were sent a 'job specification'—a sheet explaining concisely what the advertised vacancy involved in work, pay, prospects and conditions of service.

This eliminated more applicants, but a large number wrote again, some at even greater length than before. So to reduce the amount of correspondence that had to be worked through, each candidate still in the running was sent a very simple form to fill in, requesting information on the following points: name, address, age, married or single, education, qualifications, product(s) handled in the past and at present, present salary, knowledge of Hurseal products, possession of car.

With the help of the completed forms the field was narrowed down still further without involving a detailed study of the correspondence. Only when the number had been reduced reliably to manageable proportions were the individual letters of application examined more closely.

In this way a short list of 12 was produced without a senior member of the firm having to examine 200 letters in detail. Hurseal report that the short list was, in fact, successful in producing the right people for the jobs.

University Helps

A GROUP of young members of Boxfoldia Ltd. spent a week-end recently at Holly Royde College, (Extramural Department, Manchester University).

The party, which included apprentices and representatives from the 18-23 years age-group, travelled by coach from Birmingham to take part in a course on 'Everyman and the Community.'

The talks covered 'Our Changing

Social Relationships,' 'Industry in a Changing Society,' 'The Working Group in the Factory,' 'The Importance of Good Communication,' 'Everyman's Rights and Responsibilities.' Discussions followed each session.

The course links up with the staff conference which Boxfoldia hold each spring for a cross-section of members of the organisation. But for this week-end the programme was developed specially for the younger men and women.

West Coast Foothold

HERE is how the Solartron Electronic Group are attacking the north American market:

A year ago they sent two exploration teams to assess the potential demand for the company's products in the United States. Reports were favourable, particularly with regard to servo-testing instruments. Experience of showing their products at exhibitions in Los Angeles and New York confirmed this view.

At the beginning of July this year a 'resident' team of sales engineers arrived at Los Angeles and established a sales base there. After a six months' tour they will be relieved by a second team. Their main job is to contact prospective customers on the West Coast and to organize Solartron exhibits at trade shows.

The next development will be the formation of an American sales and servicing company to hold stocks in

various key cities and to make servicing arrangements through suitable agents. The company report that there seems to be a big future for British automatic control equipment in the United States.

Economies In Glasgow

A REPORT to Glasgow Corporation estimates that, as a result of organization and methods checks in ten departments, savings in the region of £56,000 per year have been made. Consequently, it has been decided to place Glasgow's experimental O & M section on a more permanent footing—a decision that several other authorities have already taken.

One unusual point arises from the Glasgow report: since the setting-up of an O & M section, annual estimates submitted by various establishments in the city have progressively diminished—even those the check has not yet touched. Perhaps the mere knowledge that an O & M set-up exists induces a spirit of greater caution and economy!

Airborne Boss

AT Denham aerodrome stands a private aircraft belonging to Polythene Ltd. Piloted by John Hayward, the firm's managing director, it has covered several hundreds of thousands of miles in the last three years, taking the firm's technicians all over the Continent to advise foreign customers on plastics problems. Now a larger machine is on order, capable of longer-range travel and equipped for night flying.

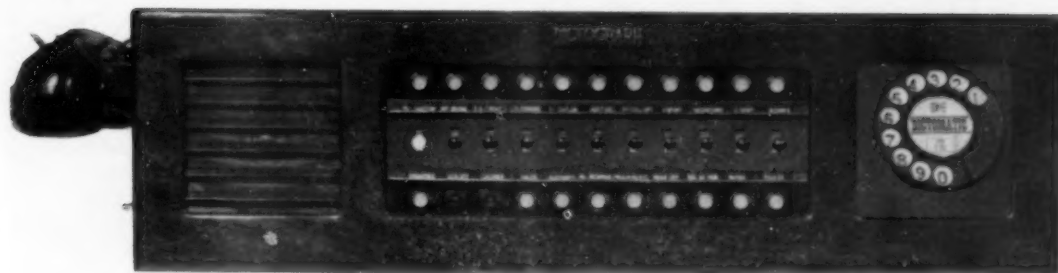
Do such spectacular methods pay? Polythene certainly think so. The

Polythene Ltd.'s technicians are flown to the Continent to advise customers on plastics problems. The aircraft is piloted by the firm's managing director, and has covered hundreds of thousands of miles in three years





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NOVEMBER, 1955



New dictating machine with **3** exclusive features

Magnetic recording belt, versatile microphone, Redicta play-back machine—you find them only on the Baird Stenocord

NEW! An office dictating machine, complete with all the latest trouble-saving extras, which is also completely portable. You can keep it as a fixed asset on your desk, or take it with you wherever you go.

Three more features put it ahead of all other dictating equipment: magnetic recording belt, versatile microphone and Redicta play-back machine. Only the Stenocord has these.

The Stenocord travels well: it weighs only 9 lb; it takes little space; and it is reliable. Its sturdy build stands up to the rough and tumble of travel, and sees it through long years of valuable service.

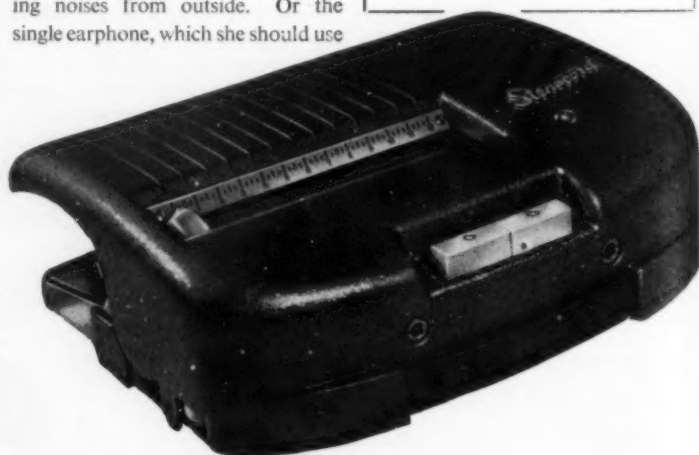
In your car, run the Stenocord on the battery with the aid of an adapter. Many sales representatives are finding that a Stenocord in their car enables them to fit in two or three extra visits a day, and cuts out evening work.

On business trips, you can post your recordings to your head office for transcription.

During stock-taking, several stores find a Stenocord with a long microphone lead enables them to do the job faster and more efficiently.

The Stenocord's controls are simplicity itself. Two buttons give you all the facilities for recording and listening back, for erasing, and for making corrections. There is also a volume control.

The secretary has a choice of headphones. Either the stethoscope headphone, which cuts out distracting noises from outside. Or the single earphone, which she should use



when she has to attend to visitors while she is transcribing.

A scale marked in minutes enables her to find her place on the magnetic recording belt. A foot-switch puts her in control of start,

stop and back-spacing. It leaves her with both hands free for typing.

Compare the Stenocord with any other machine, no matter how expensive, and see what a winner the Stenocord is!

Magnetic recording belt.

It takes 12 minutes' recording (equal to 5 typed pages). It can be put in a file; sent through the post at printed matter rates; erased and re-recorded any number of times.



Versatile microphone.

It fits in your hand or stands on your desk. It acts as both microphone and loudspeaker. And when you open out its backrest it acts as a conference microphone, and plays back with increased volume.



The Redicta play-back machine

is an optional extra. For considerably less than the cost of a second Stenocord, it provides your secretary with full time transcribing facilities. She never needs to take your Stenocord away from you.



Write to Dept. B.S. 10,
HARTLEY ELECTROMOTIVES LIMITED, 37 THURLOE STREET, LONDON. S.W.7 Telephone: **KNightsbridge 5215**
114 **BUSINESS**

business was launched seven years ago, and the first year's turnover was a modest £20,000. Last year it was £300,000, and it is expected that the current year will considerably exceed this figure.

Workers Invited

FOR some years the Triplex group have been making a point of putting across to their employees something of the business background to the firm and to industry in general. A number of workers' representatives are invited each year to attend the annual general meeting in London, and the occasion is also used for a behind-the-scenes visit of some kind.

Last year a party of employees was taken round the Stock Exchange. This year's A.G.M. was preceded by a tour of a large Pall Mall bank, where the various stages in the active life of a cheque were demonstrated.

Newcomers' Guidance

THE Royal Dutch/Shell Group is well-known for the high standard of its internal literature. When a new booklet *Introduction to Shell* was issued recently, many enquiries were received from other firms. Shell were unable to send them copies, but a duplicated leaflet, called *Note on the Publication of Welcome Booklets*, was designed to help others prepare their own handbooks.

Many aspects of 'welcome book' policy are discussed. For instance:

The information about company regulations and benefits should not be given in an impersonal, official manner, but rather as if they were being explained verbally in the course of a friendly interview. It is helpful in engendering this atmosphere of warmth and intimacy to use the second person 'you' in writing this section of the booklet.

After an analysis of the right sort of material to put in such a booklet, advice is given on layout and presentation, illustrations and distribution. The leaflet says:

The period during which a new employee is likely to be the most interested to find out about the company and conditions of service is that which intervenes between his engagement and his arrival. . . . If the booklet is sent to him with his joining instructions, . . . he will arrive for his first day's work having already assimilated much useful information, and with some of his anxieties allayed.

It is, however, emphasized that the

booklet can only hope to give a general background to the firm, and should not be expected to replace a personal welcome on the first day.

Copies of the leaflet can be obtained from the Employee Information Division, Shell Petroleum Co. Ltd., St. Helen's Court, E.C.3.

Read All About It

ASSOCIATED Electrical Industries Ltd. have produced a new house journal called *Topic*. Claimed to have the largest circulation of any company newspaper in the British Isles—90,000 copies—it is produced on high-speed rotary presses in the format shown on this page.

The new 16-page paper replaces the former *A.E.I. News*. If the standard of its first number is maintained it will rank high among house journals. News is well written and well presented, reader interest is stimulated by competitions with cash prizes, the back page is occupied by a 'Picture Parade' and the feel of a



Companies of the A.E.I. group advertise in their new journal, giving it a 'real newspaper' look

real newspaper is promoted by the use of current advertising material from the various companies in the group.

Book Reviews in Brief

PLANNING THE FUTURE STRATEGY OF YOUR BUSINESS, sponsored by the Harvard Business School Association (McGraw-Hill) 32s. Problems and solutions of both long-term planning and day-to-day procedures are presented in case history style. Real problems are discussed, but sometimes rather superficially and at excessive length. Like most American business books, this one has many practical nuggets if you have the time to dig for them.

KEEPING PACE WITH AUTOMATION, edited by M. J. Dooher (Bailey Bros. & Swinfen) 30s. A series of papers collected together by the American Management Association, and written by executives of leading companies describing their firms' own experiments with "automaticity." The language is at times over-latinized. For example, "with so many product variables to be controlled, it is apparent that many problems are encountered in obtaining reproducible product uniformity." Got it?

MONOPOLIES AND RESTRICTIVE TRADE PRACTICES by M. Albery and C. F. Fletcher-Cooke (Stevens) 27s. 6d. The authors, a Q.C. and an M.P., have provided under the one cover a copy of the Restrictive Trade Practices Act, 1956, a summary of the reports issued so far by the Monopolies Commission, and a guide to

how the new legislation may be expected to work, how it will affect firms and what action they can take in self-defence.

FRIENDS OF THE PEOPLE by Asa Briggs (Batsford) 18s. The Centenary history of Lewis's, describing the retail revolution of which they were among the pioneers, and interweaving social history with the story of a great business organization and its leader.

SURVEY OF MANUFACTURING ACTIVITY IN AUSTRALIA, April 1956. Obtainable from Australia House, free to those who have a reasonable business need for it, this is a six-monthly survey of activity in key industries.

RETIREMENT AND OTHER ANNUITIES UNDER THE FINANCE ACT, 1956, by H. G. S. Plunkett and G. A. Hosking (Sweet and Maxwell) 9s. 6d. No. 12 in the "Current Law Guide" series of handbooks.

TRAINING FACTORY WORKERS (Staples Press) 12s. 6d. A survey of training methods in 200 factories, undertaken by the National Institute of Industrial Psychology and sponsored by the European Productivity Agency.



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Workers' Veto on Board Can Help Increase Output

By W. WOLFF

Turnover rising by 25 per cent per year with an increase of only about 3 per cent in number of employees—these are the results achieved by a Droitwich firm that allows a workers' representative to sit on the board, veto any decision he thinks fit, and have access to every document and scrap of information available to other directors

WHAT to do with profits? That "agonising" question led Henry C. Osborne, 49-year-old Labour M.P. for Yardley, to a unique way of running his firm, Nu-Way Heating Plants Ltd., of Droitwich.

Mr. Osborne regards profits as "a margin of error." This is what he means: If costs remained constant or changes could be accurately forecast, the firm could, in pricing a product, include an extra amount for contingencies and a return on capital; and having done all this, there would remain no further distributable profit.

But in an uncertain world, there must be an extra margin—a margin of error—in the price, to allow for the unforeseen. And that margin must be on the profit side, if the firm is to continue in business.

So what to do with this margin of error? "My view is that if you make a profit by slightly overcharging the consumers, surely to goodness, you

ought to give it back," says Mr. Osborne, who is chairman of the company. "That is the principle universally adopted by co-operative shops and societies."

Mr. Osborne suggested that his firm should do the same. "But it so shocked the people who bought from us that we came to the conclusion that it would not be prudent to do it."

The next best thing, Mr. Osborne decided, was to share the profits with

the workers—about 50 per cent to go to those who put capital into the company, and 50 per cent to those actively working in it. That plan was adopted.

The 50 per cent lump sum is shared between employees according to length of service with the firm—one share per year of service. In recent years, the annual share has been around £10.

Mr. Osborne told the recent summer conference of the Industrial Co-partnership Association at Cambridge that he prefers this yardstick to one based on a man's salary or wages.

"A man with the greater responsibility, who puts a great deal into the firm, already gets paid well. I don't see why, after that, he should get proportionately still more. Let the differential be, roughly, that when you are older you need more."

But Mr. Osborne believes that "it does not do anybody much good just to split the profits that way. There is no great moral uplift, no great addition to efficiency to be got by just sharing profits. To achieve that, you must get co-partnership working."

Thus he was led to establish the extraordinary scheme now working at Nu-Way. As a first step, the company formed the Nu-Way Society. Everyone in the firm, except the shareholders and directors, after six months of service, becomes eligible to join the society.

Every second year the society elect their president by secret ballot. The election is generally hotly contested, with a poll of about 95 per cent.

Automatically, the president is co-opted to the board of the company as a full director, with a veto on

Mr. Osborne believes that profits are an extra "margin of error," above a fair return on capital, to allow for the unforeseen. So the company share them 50-50 with the workers, on the basis of one share for each year of service.

But there is no great moral uplift, no great addition to efficiency to be got by just sharing profits.



1 Fred Evans, former turner and now president of the Nu-Way Society of employees, has been put in charge of a department, with his own staff. He chats here with Henry Usborne, M.P., (right) chairman of Nu-Way Heating Plants Ltd.

UNION OFFICIAL JOINS THE MANAGEMENT



2 Fred Evans, as the workers' representative (right), sits in on a board meeting attended by (from left), W. J. O. Bartlett, company secretary, H. F. C. Newsom, managing director, and Henry C. Usborne, in the chair. Fred Evans can veto any board decisions.



3 Fred Evans in the chair at a meeting of the Nu-Way Society, attended by departmental representatives of the machine shop, the fitting shop, the male office workers and female office workers, as well as society officials.

every board decision. And of course, he has access to every document and scrap of information available to the other directors.

Was this scheme too drastic and daring? For a while, three years ago, it seemed so. The newly elected president was Fred Evans, a 27-year-old centre lathe turner, and district secretary of the Amalgamated Engineering Union.

Before Mr. Evans came to the firm, few workers had bothered to join their union. Under his leadership, 60 per cent of the employees were soon union members.

Fred Evans was indeed a very able young man, but from the management's point of view, known to be a little bit difficult.

Would this be the end of co-partnership at Nu-Way? Might this be the beginning of the end of the firm itself? Those were the fears and doubts that haunted the minds of some of the directors.

That was three years ago. Today, Fred Evans is considered by the managing director, H. F. C. Newsom, to be "one of the brightest chaps" in the firm. He has been re-elected for a second term as president

of the Nu-Way Society. And it is thought that before long he will get on the board on his own merits.

He was recently taken away from his job on the centre lathe, and put in charge of an entirely new department, with his own staff. Its job is to collect and analyse all the returns of parts which are sent back and alleged to be faulty by customers and agents.

At present, some £10,000 is lost to the company because they don't quite know how to tackle the problem. Evans has been given the job of getting the whole thing straightened out. And he is setting about it "brilliantly," says Mr. Usborne.

"This change that has taken place is one of the exciting things about co-partnership. If you can have some kind of kindred organization within the firm, it will very often throw up people who are capable of responsibility—people who may have been awkward because they did not have the responsibility which they knew they could carry. Management can do all kinds of things, but I don't think that by itself it can always get 100 per cent results."



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The employees' society elect their president every two years, by secret ballot. He is automatically co-opted to the board, as a full director, with a veto on every board decision, and access to all information available to other directors.

Fred Evans, the ardent unionist, has turned out to be "one of the brightest chaps" in the firm, and it is thought that before long he will get on the board on his own merits.

The previous workers' directors had all been perfectly "nice" and never seemed to disagree with the rest of the board. But even they found that after a spell on the board they were more capable than they had been before.

One man, Danny Bishop, was a fitter's mate on the shop floor before he became a director. Now he is a member of the progress department.

Another, Barry Waldron, rose from outside fitter to senior charge-hand.

"It is essential in co-partnership, I believe," says Mr. Usborne, "that the elected representative should not only have full access to every document and fact in the firm if he wants to, but that everybody should know in the last analysis he has a veto on everything that is done. "So that when anything is done that is unpopular, it is also known that Fred Evans, or whoever it may be, could have stopped it if he wanted to."

The veto is the means by which joint responsibility is brought home to all the staff. "A firm runs better if a lot of people know how difficult it is to run," says Mr. Usborne.

It may also mean that certain decisions cannot be taken very rapidly, because the elected director wants to consult his fellows. By the time the proposal has been worked through, it may have been modified, but it is also going through with the men's consent. And as they will have to work it, their agreement and understanding is of cardinal importance.

What the workers get out of co-partnership and profit-sharing is clear—more cash and a decisive voice in running the firm.

But what of the fortunes of the company itself? Mr. Usborne founded it in 1932 with a capital of £5 and an employee payroll of two—"myself and a girl," as he puts it.

Today, 300 workers turn over £1 million a year.

Rising Turnover

"The first impression of visitors is that our people do not work too hard. But their results are quite fantastic—we increase our turnover by 25 per cent every year. And that is done with a very small increase in staff—possibly ten a year. The reason is the goodwill and fine spirit in the firm resulting from the way it is run."

If you have some kind of kindred organization within the firm, it will very often throw up people who are capable of responsibility—people who may otherwise have been awkward.

The veto is the means by which joint responsibility is brought home to all the staff. A firm runs better if a lot of people know how difficult it is to run.

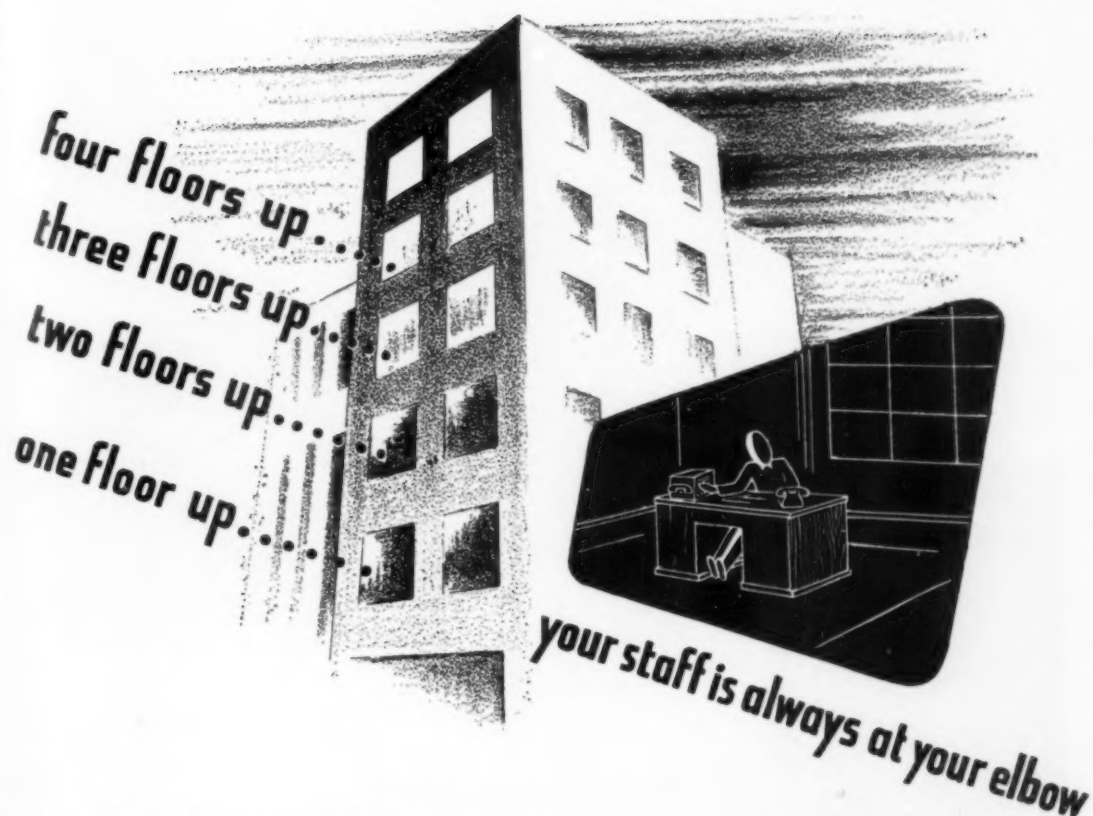
Mr. Usborne sums up: "There is no solution for harmony and efficiency in industry except through some form of co-partnership and profit-sharing. But co-partnership will not work unless you have an elective structure by which the employees can choose their representative. It will not work unless the person elected has full board status with a veto and complete access to everything that the ordinary directors have."

Mr. Usborne believes that the lessons of co-partnership have a wider application. He feels that we have reached an era when the old objectives of trade unionism have very largely lost their meaning.

"Organized labour at the moment is in severe danger of getting itself discredited," he says. "Because what it has been doing in the last few years is not very creditable either to itself or to the community. I say that as a trade unionist myself."

The unions are "manifestly silly," he believes, in continuing to demand national wage increases. They know they can not get them in real terms. The only people who suffer are pensioners and people on fixed incomes.

He proposes these new objectives: "Trade unionists should help to make profits, achieve efficiency and share responsibility. After that they should demand a fair share of the profits without pushing up prices. They should have their man in the right place—the board room—to argue their case for getting their share."END

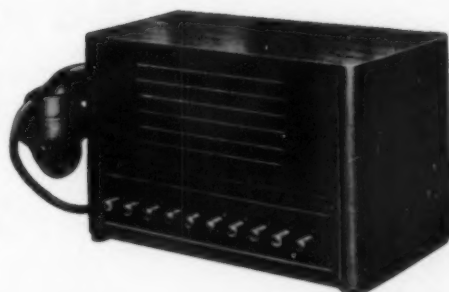


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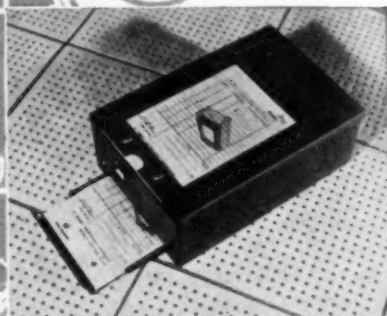
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What Job Evaluation Can Mean to Industrial Peace

By BRUCE YUILL

A former I.C.I. research fellow at Glasgow University describes how job evaluation was introduced at the Ardeer explosives works, and shows how it can help in two ways to cut down disagreement between management and unions. First, it confines the arguments on wages to certain crucial points about 'work content,' and second, even on these points it substitutes a form of 'judicious' reasoning, for the old clash of opposing interests.

THIS short account of how a job evaluation scheme was formulated, how it was introduced at works level, and its subsequent effects on union-management relations, is based on work done while the author was I.C.I. Research Fellow in Industrial Relations at the University of Glasgow. It is part of a larger piece of research carried out during 1954-56, which enquired into patterns of union-management behaviour at the factory level. The study was done at I.C.I.'s Nobel Factory at Ardeer, and its object was

to find out how disputes arose within the factory, what sort of subjects came into dispute and how the disputes were settled. (A previous article on this subject appeared in the June, 1956 issue of BUSINESS, p. 77.)

One of the fundamental problems in industrial relations is finding a satisfactory means of resolving union management arguments about the wage differential or 'margin' which should be paid, above the industry minimum, for jobs with greater work content than those at base. Job evaluation is a way of resolving this.

Although it has long been a feature of wage determination in American plants, it is relatively new to British industry. Only in 1950 did it come into effect at Ardeer.

The Ardeer factory is the largest manufacturer of explosives in the U.K., and employs about 6,000, most of whom are general workers. These belong to the Transport and General Workers' Union. The basic rate of pay has for many years been negotiated between I.C.I. and the national headquarters of the unions concerned, including the T. & G.W.U. The differential structure has on the other hand always been a matter for local bargaining. Although a substantial number of craftsmen are employed, their rates do not come within the scheme of job evaluation.

What is job evaluation? Job evaluation is essentially a method of measuring the work content of jobs. It does not determine the amount of the differential to be paid. That is a question for union-management bargaining. But it does allow a comparison to be made between the 'real' as opposed to the 'monetary' value of a job. Monetary values can then be determined by inserting a conversion scale in the union-management agreement. Thus, disagreements can then be confined to resolving the question of how much work content is contained in each particular job.

A job evaluation scheme, to be effective, must rationalize the comparison of work contents according to certain agreed formulae. Its aim is to eliminate the rule of thumb method of determining the relative importance of positions. It must rely to some extent on job analysis—on the observance and recording of

Worker resistance to job evaluation methods can be overcome by explaining and distributing details of the scheme to employees, by running a special appreciation course for shop stewards, by introducing the scheme at the same time as a general upward revision of rates, and by safeguarding the earnings of those individuals whose jobs are adversely rated.

significant differences between one job and another. Only after an analysis has been made can the disputants be expected to agree on the 'work content.'

Job evaluation may also be used to determine the relative job contents of the supervisory and managerial grades. It may be of some use in employment selection, placement, promotion and training and for revealing job elements which are unsafe. But its primary purpose is for wage and salary determination. In this article only the former is discussed, for salaries remained outside the union orbit at Ardeer.

I.C.I.'s scheme. Shortly after the last war I.C.I. studied the four main categories of job evaluation schemes to determine which one would be appropriate for its use. Both 'ranking' and 'classification' schemes were rejected because they did not provide for sufficient analysis of the large number of jobs found within the company wage structure. While the 'factor comparison' method did not suffer from this defect, its practicability rested on the assumption that there were in existence a number of key jobs, the rates for which were considered fair and equitable. If, therefore, there were union-management disagreement about these key jobs, then the difficulties of ranking the rest would have been immense. 'Rating' schemes were also considered inapplicable at Ardeer, as there were too many job elements to assess.

Each method therefore had its drawbacks for use in I.C.I. factories. So the company decided to evolve

its own scheme which, it contended, included the advantages of each. The company recognized that the scheme had to be simple and easily understood. Jobs were analysed under the following mainheads:

1. Mental Characteristics. Good memory, Ability to reason, Speed of reaction, Even temperament, Co-operativeness, Perseverance, Mechanical sense, Initiative, Disparate attention, Ability to visualize, Sense of responsibility.

2. Physical Characteristics. Muscular strength, Stamina, Agility, Sensory accuracy.

3. Acquired Skills and Knowledge. Education, Training, Experience.

4. Working Conditions. Vibration, Position, Fumes/smells, Dust/dirt, Heat/cold, Wetness, Clothing and equipment, Poor light, Exposure, Noise, Height, Below ground, Isolation, Monotony, Nervous tension, Accident risk, Disease risk.

A rating was given to each mainhead, taking account of the factors listed under each. The factors were not individually assessed. For example, under the third heading the

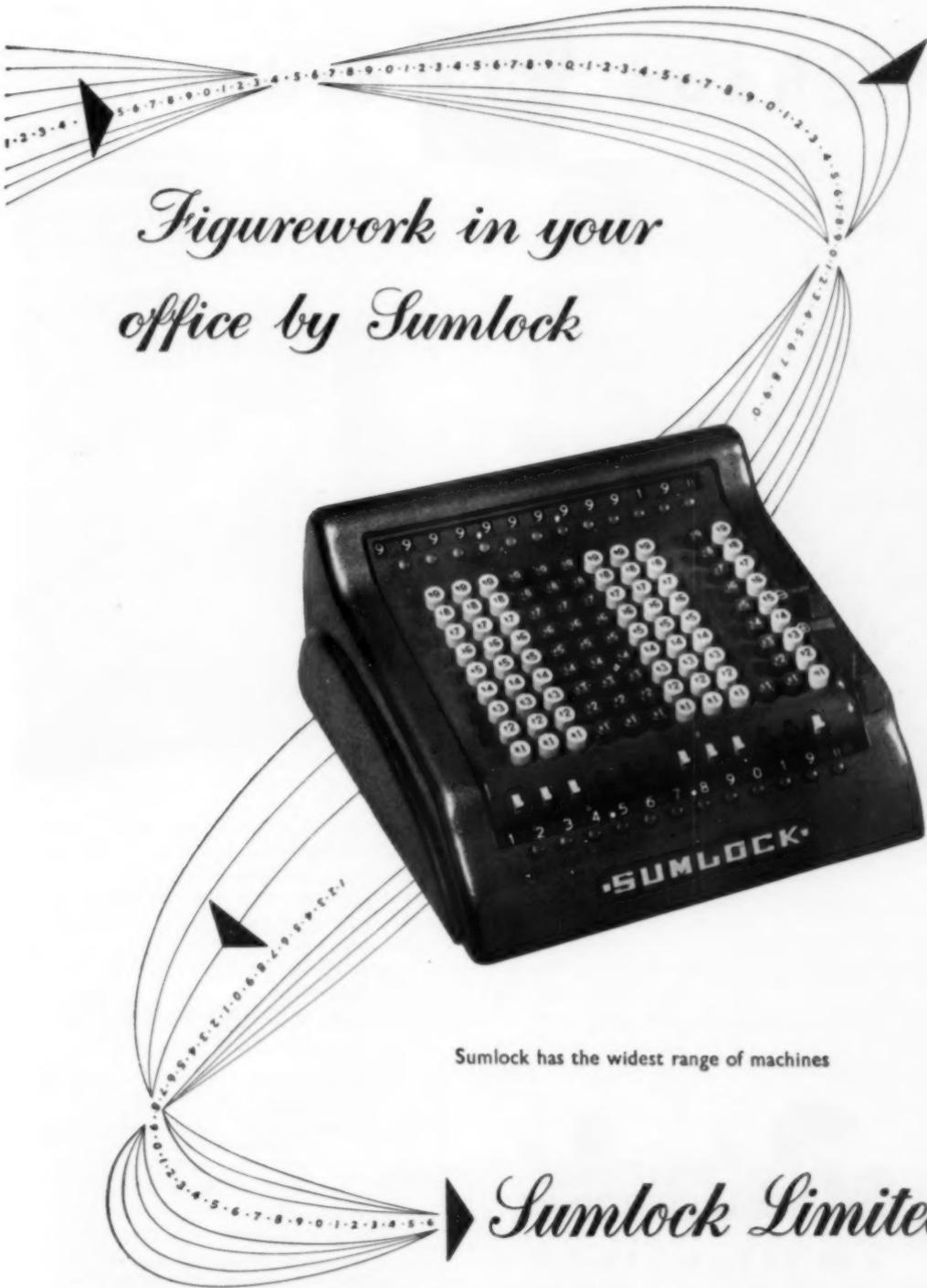
points allotted reflected the relative effort expended by the worker in acquiring the necessary skill and knowledge to do the job. There was some inevitable overlap in the mainheads. For each mainhead there was a rating scale of one to a hundred. The jobs with the highest contents under each mainhead were placed at the top of the scale. Thus boiler-cleaning was considered to have the worst conditions and therefore received the maximum number of points. On each scale the rest of the jobs were ranked and allotted points. The final assessment was then found by multiplying the number of points assessed under each mainhead by the following weights:

| | |
|-----------------------|-----|
| Mental Requirements | 0.4 |
| Physical Requirements | 0.4 |
| Skill and Knowledge | 1.0 |
| Working Conditions | 0.7 |

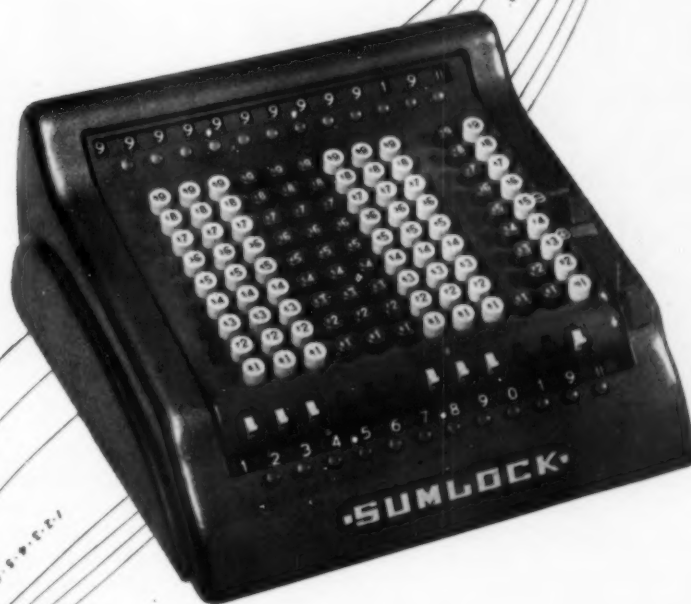
The selection of the base jobs, that is those requiring the minimum of mental or physical requirements, skill and knowledge, with normal working conditions, on which to build the rating, had to be reconciled with the nationally determined base rate for general workers in I.C.I. These were jobs which would not carry a differential but would receive the minimum. The following were selected: floor sweeping, barrowing of sand, carrying of messages, recording of simple figures and taking of simple measurements.

Application in the plant. The company's scheme for job evaluation—or job appraisal, as they chose to call it—was sent to the general worker unions for their perusal. The company had initially made an inter-factory comparison of jobs so as to avoid unfair differences in assess-

Job evaluation prevents the haphazard adjustment of wage differentials and establishes a process by which fair treatment may be given to workers whose job content changes.



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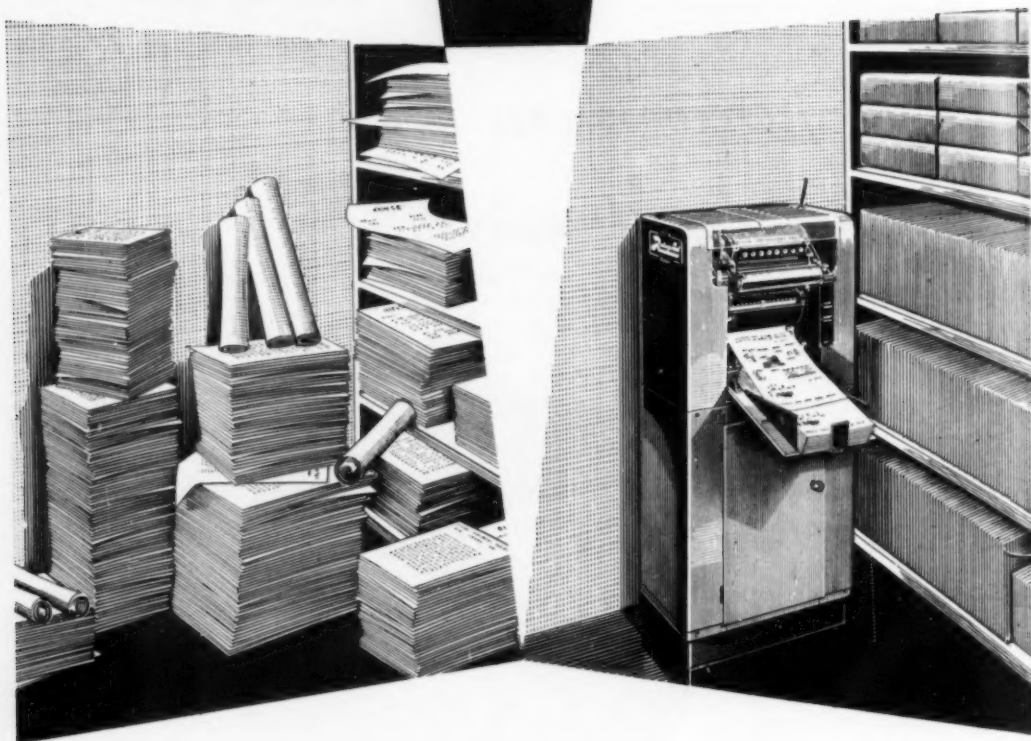


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ment. And the scheme was designed to avoid inter-factory differentials. Thus there was no room for detailed bargaining at industry level. The national offices of the unions merely agreed to the scheme being introduced at plant level. They accepted the technicalities of the scheme.

Jobs were appraised in Ardeer, the factory under investigation, in 1948. Due to the complexity of the seniority procedures the jobs had to be assessed in groups. It would have been impossible to have constructed a complex hierarchy of differentials. A movement from one grade to another would have been disastrous to the deployment of labour within the factory, as the more senior personnel filled the higher rated jobs. A major shuffle up and down the rate structure could have been involved every time a worker had to be moved even temporarily.

But this was not the only difficulty that arose from the application of job evaluation in the factory. After the company's assessors had rated the jobs they sent the results to the local branch of the T. & G.W.U. for their acceptance. Initially, the workers were suspicious and refused to entertain the management's proposals. They did not understand how the job evaluation scheme worked, although the company had its scheme printed in booklet form and distributed to the employees. The regional committee of the T. & G.W.U. came to the rescue and suggested to the Nobel Division that some shop stewards might be given an appreciation course in job evaluation methods. This seemed to have the desired effect, for shortly afterwards the branch approved the scheme.

This did not end the difficulties, however, for every job rate had to be discussed departmentally with the shop steward, and then locally with the union official if no agreement was forthcoming. Any job evaluation scheme is bound to upset the pattern of relative wages in a factory, and the fixing of the individual or group rates will be strenuously negotiated. It took two years before the whole factory at Ardeer, except those sec-

The Job Evaluation Method

Rate the job, not the man. And assess on the acceptable performance, not on the ideal performance.

1. STUDY THE JOB

Study the description of the job, and also the actual job, not forgetting any recurring factors, even though these may be infrequent.

2. DISCUSS THE STUDY

All the assessors meet together with the plant management and discuss each job.

3. RANK AND RATE

Each assessor makes his own judgment on how he would rank and rate each job, according to the agreed mainheads. Then he sets aside his results for a few hours, after which he revises them.

4. DISCLOSE AND DISCUSS THE RATINGS

Differences in rating are discussed by the assessors until their arguments are appreciated by one another.

5. REVISE THE RATINGS

Each assessor then makes his own revision, in the light of previous argument.

6. COMPLETE THE MARKING

Average the ratings of the different assessors for each mainhead, apply the weightings and find the total number of marks.

tors remaining outside the scheme, finished the negotiations. The management did not allow any groups to go on to their new rates until the rest agreed to theirs. But it was worthwhile for departments to come to an early agreement, for the new rates were paid retrospectively to their individual date of acceptance. This helped to speed up negotiations.

Upward Revision

The acceptance of job evaluation in Ardeer was influenced by two other factors. Firstly, the total amount involved in the upward revision of rates was ten times that of the decreases, and more concessions during negotiations made the scheme

still more popular. A scheme which provided for the substantial downgrading of job differentials would have been doomed to failure. Secondly, where a job was ultimately to be downgraded, the earnings of the then occupier were in effect safeguarded. This principle had long been adopted by I.C.I. when any individual suffered in the course of arrangements for general betterment of conditions for the remainder. Both these provisions helped in breaking down worker-resistance to the new methods of determining differentials.

With the exception of one department, which will be examined later in this article, job evaluation was introduced throughout the Ardeer plant at

Skilled workers may be protected against inflation by a periodic adjustment of the job-evaluated wage differentials. For example, in 1954 I.C.I. restored the margin of the skilled worker by increasing differentials by 25 per cent. This was fairer than haphazard bargaining over each margin.

the one time, so setting up a symmetrical wage structure.

Effect on union relations. The I.C.I. management did not use job evaluation as some sort of secret device to counter or thwart union demands. On the contrary, union co-operation was obtained in fixing the differentials. The various union officials—shop stewards, local secretary and committee, were given opportunity to make inter-job comparisons. Although they were naturally anxious to prove that job content was higher than the management's assessments revealed, they still had to make relative comparisons. And for intra-union political reasons, it was not possible to push sectional claims beyond a certain point.

Under the terms of the job evaluation scheme, a review of differentials was not possible unless there was a provable change in work content. A few requests for reviews did come from some dissident groups, but they had to be submitted via the union structure, which in itself was a screening. The equity of a sectional demand had to be dealt with on its own merits but it also had to conform to union-management ideas on the wage structure. As a result, there have been very few re-assessments of jobs within the general scheme adopted in early 1950.

Job evaluation has led to the elimination of haphazard movement in differentials. Previously the adjusting of wage rates for particular classes of workers had led to considerable friction, because it stimulated worker jealousy. This had been a serious source of trouble. But under the new system, having established a symmetrical wage struc-

ture, it was then possible for the differential structure to be equitably adjusted to meet new economic circumstances. For example, recent years have seen steady inflation and a deterioration of the real value of job differential. To restore the position of the man working above the base wage, differentials were increased by 25 per cent in 1954. This indeed was a milestone in the industrial relations pattern in Ardeer factory.

Bargaining process not affected. Job evaluation is not a mystical scheme to get rid of bargaining, as some would like to think. It is not a science, as some engineering consultants would like to pretend. It is nothing more than a very loose method for determining the relative work content of jobs. There must still be union-management argument over the work content, but the argument is confined to certain crucial points. Job evaluation may therefore assist unions and management to reach agreement which might otherwise be more difficult.

Thus under the I.C.I. job appraisal scheme, the factory conferences between management and unions have taken the traditional forms. But workers have been given a more flexible method of seeking wage

equity. Take the case of a job operation which was only occasionally performed. Under the old method of wage fixation the workers had little hope of securing recognition if they claimed to be doing more valuable work than their wages suggested. But under job evaluation it is relatively easy to obtain management approval for a special assessment of any particular jobs in dispute. Shop stewards may, under the I.C.I. negotiating procedure, take any matter on which they or their members feel dissatisfied to the management, and if no agreement is forthcoming a local conference can then be held.

The union officials or the shop stewards did not originally participate in making the actual assessments at Ardeer. That work was considered by both parties as management's prerogative and duty. The original introduction was a complex business, and it would have been impossible, for technical reasons, to have the unions participate.

In re-assessments, the shop steward was occasionally present. He discussed job elements but did not participate in the actual rating. The shop steward was then free to disagree with the assessment and to use the negotiating procedure. However, there have been virtually no disagreements about re-assessments of the non-supervisory grades—or rather, none so serious as to involve taking the matter to local conference.

Some difficult problems. Trouble arose with one group of workers whose jobs were not evaluated at the same time as the rest of the factory. This particular department was being re-organised, and due to haphazard wage increases, differentials had not

Although it is the task of management to assess each job, union representatives should have access to all the ratings. And at Ardeer, requests for reviews of ratings have to be submitted via the union structure. This helps to prevent sectional claims from being pushed too far.

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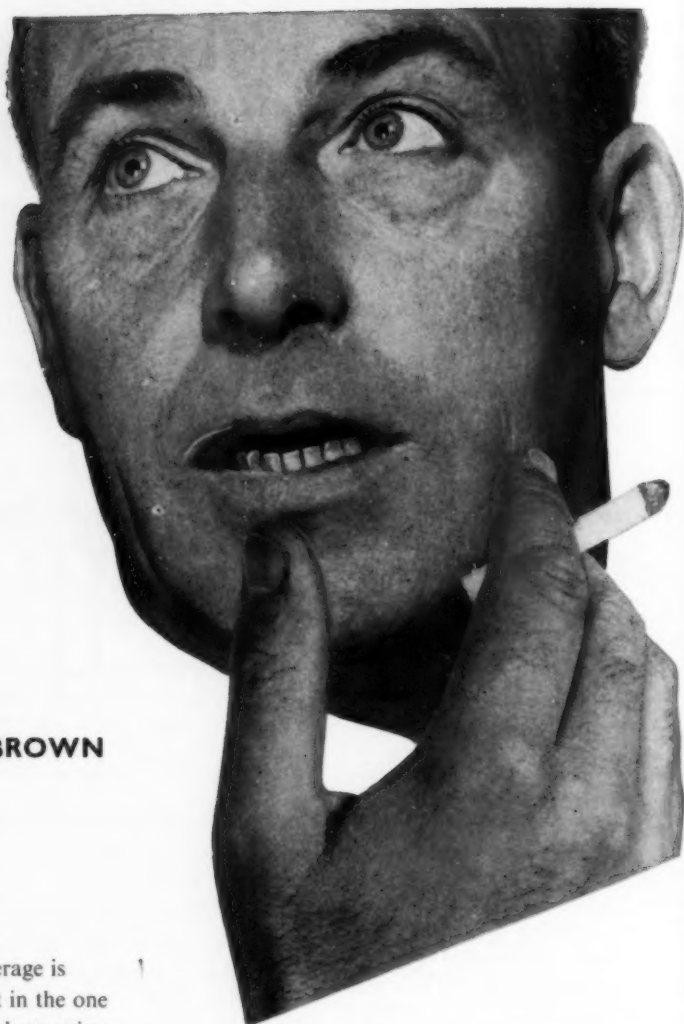
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*Send for this survey, see from statistical
record that Mr. Brown's words are backed
by figures that mean something.*

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been altered for many years. The top rate expressed as a percentage of the industry minimum had declined from 45 per cent in 1929 to 24 per cent in 1947. These top men, who filled the senior jobs in the factory, grew restive, and failure to settle the differential issue became one of the factors which led to a strike.

Although haphazard movement in wage rates must take a substantial part of the blame for this conflict, the real nigger in the woodpile was the distortion of the earnings structure through the introduction of incentives. A new section of the same department had commenced operations that were paid by result. Although the management conceded a general increase to those assessed by job evaluation methods, who were working on time, the disparity of earnings remained. Yet the workers refused to go over to an incentive scheme.

The job evaluation scheme did not make any allowance for the fact that one group worked on incentives and another in the same work area did not. Its function was to determine the rate for the job under normal conditions. By contrast, incentive schemes were drawn up on the principle that greater effort would lead to greater earnings. And the Ardeer management refused to pay a special allowance for non-incentive jobs, except in the case of those supervising incentive workers. There is no easy way to reconcile incentive schemes with job evaluation.

Another difficulty was experienced over a demand by the local branch of the T. & G. W. U. for 'a down the line increase.' In this particular case they claimed that there had been a change of working conditions for a whole section, due to an explosion

Job evaluation does not supercede the bargaining process, but the very process of studying each job and classifying and ranking jobs according to prescribed mainheads, introduces a judicious approach to bargaining.

.....

resulting in loss of life. The management resisted this demand, as they believed that a concession on this would be inconsistent with job evaluation methods of differential determination. They contended that the same risk did not attach to all the jobs along the line.

Psychological Causes

During these negotiations there was a go-slow. This was mainly due to psychological causes, resulting from the explosion. But considerable criticism was levied at job evaluation methods. In actual fact there was nothing wrong with the methods in principle, although there was disagreement as to whether or not the work content had changed, and if so, the manner in which it should be compensated.

Developing a new concept of collective bargaining. The general effect of introducing job evaluation in Ardeer has been to strengthen the establishment of a factory system of 'law.' The setting up of equitable industrial laws, through voluntary collective bargaining, is an important key to industrial peace. There will, as with all laws, be breaches of the industrial code, due to the shortcomings of human nature. But it is important that there be a system of factory 'law.' Joint consultation, profit-sharing and the establishment of

good 'personal' relations between workers and management officials are incomplete without it.

This, unfortunately, has not been widely recognised by either the practitioners or the theorists, who have more or less assumed that the job rates are settled by a trial of strength. If job evaluation is to be effective, then the very opposite assumptions must be made. The parties must look at each disputed job and try and come to a 'judicious' decision. They must look at previous decisions, determine which precedents should be followed, and determine from a sifting of the facts the appropriate rate to be paid. And they must have regard not only to the strict interpretative functions of factory law, but also to the notion of equity.

But how can two parties, both intent on proving their particular points and with a financial interest in the decision, come to a 'judicial' decision? If the answer to this question is that it is impossible, then voluntary collective bargaining must be inconsistent with the maintenance of industrial peace. The purpose of collective bargaining is to resolve the union-management clash, and at this it must fail—as it is failing in many British industries to-day.

However, it is not impossible for management and union to come to a series of judicious decisions. This on the whole has been achieved in Ardeer. An examination not only of the disputes about job rates but also of all other subjects, involving well over 200 separate issues in the post-war period, show that in the great majority of cases the settlements were 'judiciously' arrived at by the process of comparison and study of previous and present conditions, so familiar in the determination of cases under British Common Law.

.....

Experience at Ardeer demonstrates how voluntary collective bargaining can lead to the establishment of a consistent pattern of 'factory law' which will help to put management-union relations on a basis of mutual trust.

From this overhead travelling cage the camera crew get 'birdseye' views of the implements. The three-ton crane for positioning the objects is controlled from the cage



Putting Products And Plans 'In the Picture'

By STEPHEN ROSE

The new photographic centre built by Ransomes, Sims & Jefferies Ltd. fulfils two roles. First, it deals with publicity photographs of the firm's products; second, it keeps a photo-library of all production drawings. Already the firm's considerable investment in it is beginning to show dividends. Photographs are better and cheaper to produce, while there has been a 90 per cent saving in valuable storage-space.

THE photographic department in many firms is something of a poor relation: its budget is often too limited, its activities too loosely defined. But Ransomes, Sims and Jefferies Ltd., manufacturers of agricultural and industrial equipment at Ipswich, take quite the opposite view. An elaborate new photographic block which they opened in August shows that they are prepared to invest considerably in exploiting this section of the firm.

Until recently, Ransomes were one of the many firms whose photographers have to clamber around on crates

and ladders in obscure parts of the factory to obtain a picture of some product or other. Often it was impossible to choose a suitable background or the correct lighting. Heavy and unwieldy implements had to be photographed wherever they were made. Consequently, much time and money were spent later in touching up and blocking out parts of the resulting photographs.

In the new block is a strikingly-designed studio which overcomes these difficulties. Its north wall is completely glazed to provide the maximum daylight. As catalogue

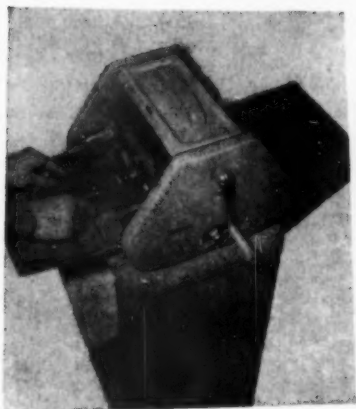
work seeks to avoid dramatic shadows, good daylight is generally preferable to artificial lighting.

The opposite wall houses a large motor-operated roller shutter. When open, this allows implements of every size to be towed right into the studio by electric truck. Set flush with the floor is a turntable. Its balanced bearings ensure that even the heaviest objects can be positioned with accuracy at the touch of a finger. Floor and walls are a light, matt colour, and provide an ideal neutral background.

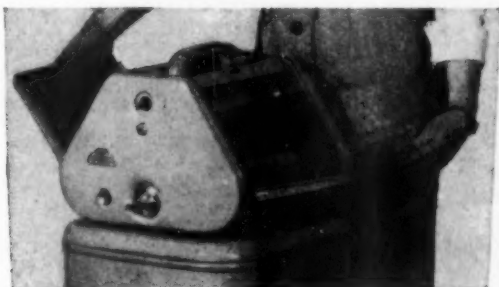
Overhead, a three-ton gantry carries a moving cage for camera and crew. In front of the cage, on an extended girder arm, a power crane travels transversely. With this equipment—designed by a director of the firm—the camera can take shots at any required angle, including a perfect 'birdseye' view of the object, while the camera crew can arrange objects from the cage at the touch of a button controlling the crane.

Complementing this studio are up-to-date developing, printing, chemical mixing and trimming rooms linked by light-tight passages. This part of the block, therefore, contains a complete installation for the photography of static objects. Also dealt with are publicity and sales literature photographs, lecture slides, coverage of 'house' events and photographs of visiting parties and V.I.P.s. Any member of the firm requiring a new passport photograph can have this produced by the department.

But the new block has also been built to house another installation, quite independent of the first, though



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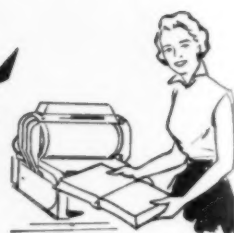
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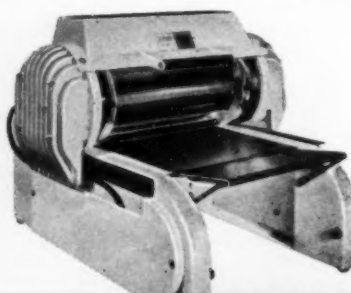
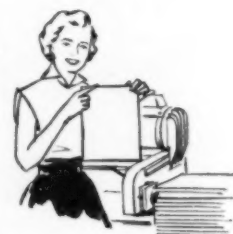
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PHOTO · PRINTING MACHINES AND MATERIALS

operated by the same staff. This is a recording and reproduction unit for photographing blueprints and original production drawings.

Manufacturers of agricultural implements have to reckon with a demand for spare parts for as long as 20 years after production of a model has stopped. So their library of active and semi-active drawings is bound to be considerable: in Ransomes' case it stands at the moment at something like 56,000 drawings. Furthermore, expanding activities and diversification of products mean that this figure will increase by an estimated 40 per cent over the next few years.

But already the library takes up something like one-tenth of all drawing office space. A 40 per cent increase would be unthinkable from this point of view. Obviously the company were forced to find a new solution, and this is where the photographic department came to play its part.

Around the recording unit the following system has been built. After an item has been in production for six months, it is assumed that all initial modifications will have been made and the original drawings amended. So the drawings are then passed to the records section. There they are locked into a large frame, usually four at a time, illuminated by strong arc lamps, and photographed onto strip film which is sliced off after each 'take.'

After development of the half-plate sized negatives, a 12in. by 10in. glossy print of each drawing is made, and also a duplicate negative. Print and original are then sent back to the drawing office, where the former is examined for clarity of reproduction.

If passed as O.K., the print is filed by the drawing office and the original destroyed. The photography department files the negative. Communication between drawing office and photography section has been simplified by building a new drawing

office block directly adjacent to the photographic block.

Because of its reduced size, the photographic print takes up very much less space, and is easier to handle than an original drawing. It has been reckoned that the space occupied by the library will be reduced by as much as 90 per cent.

Thus the storage problem has been satisfactorily overcome. The vast backlog of work that is represented by the existing library is being tackled methodically. At first it was thought that six months would suffice to clear it, but this estimate has now been found to be extremely optimistic. Nevertheless, the task will have been accomplished sooner or later, and from then on it will be relatively simple for the department to keep up with the flow of new drawings.

Three Files Now

It could be said that, against the once-only filing of drawings that took place formerly, there are now three files to be kept—in the drawing office, in the photographic unit, and somewhere away from the site, where copy negatives are kept as a safety precaution. In actual fact, however, the total space occupied by the negatives is negligible. One drawer of one table-top filing cabinet can hold 500 negatives. Assuming each negative to contain an average of four drawings, this allows some 2,000 drawings for each drawer. Thus, one small cabinet can contain negatives for upwards of 24,000 blueprints.

One unexpected result of this system is that draughtsmen and production workers now say that the smaller glossy prints of drawings are

actually an improvement on the originals. The reduction in size enables the reader to get an at-a-glance view of the drawing as a whole, where before he may have seen only a mass of details. The firm have also found that draughtsmen no longer try to draw the thinnest line possible, though this used to be one of the criteria of good draughtsmanship. Bolder lines are now aimed at, as these give better and more legible reproductions.

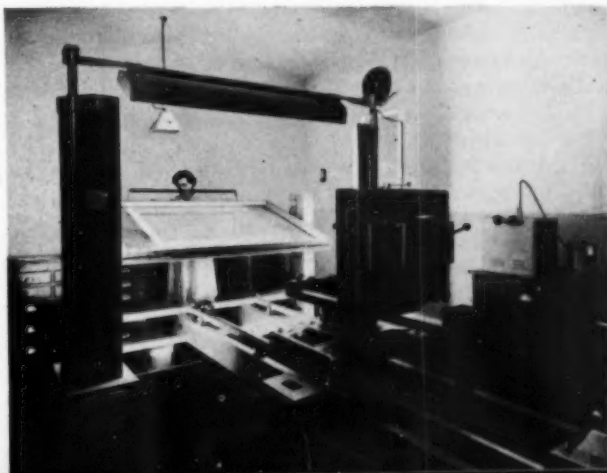
Ransomes' new photographic set-up enables a single staff group to carry out two quite distinct functions. It is undeniable, of course, that the expense to the firm has been considerable. The cost of the new studio, of the recording unit, and of the new building and all its equipment exceeded the already generous budget set for it. But Ransomes believe their investment to be sound.

The value of the photographic department's services to the firm has been increased out of all proportion by the new duties it can now undertake. The saving in office space that has been achieved is also significant. Less retouching and blocking-out on photographs represents a further saving in money. Better all-round facilities mean a speedier print service within the firm. All in all, greater demands may now be made on the department for photographic work of all kinds.

The real point is this: Ransomes have decided to treat their photographic section, not as a poor relation, but as a vital adjunct to production and marketing. They are already feeling the benefits of that decision.

END

Production drawings are clamped into the large frame on the left, then illuminated by strong arc lamps. Because an average of four drawings go on to one half-plate negative, much storage space is saved.





PRINTING. The dockets accompanying each job specify which of the six offset-litho machines is to be used. These machines turn out approximately 250,000 documents a week.

There are no giant presses in Marks and Spencer's two printing departments—only machines of the sort which are used in hundreds of offices. Yet skilful organization enables them to turn out a huge variety of work, sometimes at very short notice.

How Office Printing Speeds Communication With Branches

By PHILIP CAISTOR

IN many organizations, a certain amount of internal information—news-sheets, departmental instructions, staff notices, forms, special stationery, etc.—is circulated in printed form. The time factor in producing them is often very important, and in such cases there may be a strong case for setting up an internal printing department.

Marks and Spencer Ltd. provide an excellent example of the way in which this can be done. They have 236 retail stores in most of the principal towns from Falmouth to Aberdeen. The problem, therefore, is one of communication from the central offices in London to all branches, and also to thirteen divisional offices.

The company have to circulate, often within 24 hours, changes in prices, policies and systems; they have to issue daily instructions, permanent instructions in manual form, personnel changes, sales promotions, forthcoming social events, and—last but not least—the forms and documents essential to the control of a huge variety of stock constantly alter-

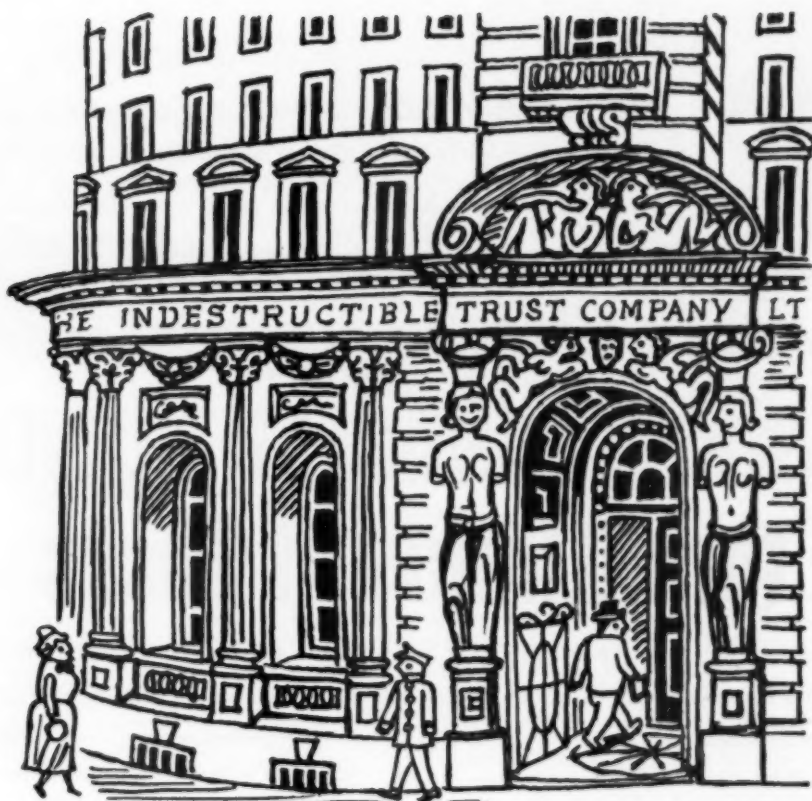
ing under the tempo of a rapid sales turnover.

These requirements can be met only by a quick, reliable and cheap printing service. In a company with about 25,000 employees and an annual turnover in the region of £120 million, the printing demands are considerable. Yet it is, perhaps, typical of this company to find that their complex requirements have been met very simply.

They have two small, compact departments which use standard office printing and duplicating machines. The volume and quality of the work—and the speed with which it is delivered—are impressive.

The methods will be discussed in

The internal printing departments are free from the worries of stationery and form printing, and can concentrate on the production of documents and publications which cannot be conveniently produced in time by other means.



Hence the nymphs

NO expense was spared when building the head offices of the Indestructible Trust Company.

They were intended to express the wealth, generosity and security of the business they house. To this end, the architect was lavish with swags and columns, chubby cherubs and smiling nymphs.

To the casual observer, the building is as indestructible as the Trust it houses. But inside, it is another story. The spaciouly inconvenient rooms have been

divided by wooden partitions into offices of unusual shape, but more useful size. Chaos resulted, and one or two minor fires.

Undaunted, the Managing Director sent for the Man from Chubb, who very quickly evolved a simple scheme whereby all the important documents, securities and correspondence which are the bread-and-butter of such an organization, could be safely housed in Chubb Fire-resisting Cabinets.

As the expense was inconsiderable, the Managing Director acted

promptly on this advice, with the result that the firm is now as secure as it looks, and the nymphs at last have something to smile about.

For any business, the Man from Chubb will make a free and confidential report. Even if you never take his advice, the opinion of the world's greatest security experts is worth having. Write or telephone Chubb & Son's Lock and Safe Co. Ltd., 175-176 Tottenham Court Road, London, W.1. (MUSEum 5822.)

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greater detail later. For the present, it is important to understand how they manage to operate effectively with such simple devices. The secret lies in clear thinking. They examined their printing requirements and placed them in two categories: those for which the printing services available were adequate, and those for which they were not. Rush work (all too frequent in the printing trade) was, if not completely eliminated, at least brought under control.

Stocks of stationery and forms do not 'run out,' resulting in panic calls to the printer. Stocks and usage are checked regularly and, after time has been allotted for the revision and alteration of 'copy,' the printer is given sufficient time to do the job without panic. By this planned production, a large amount of work which was previously thought to be urgent because of its unpredictable nature, has been brought comfortably within the scope of the available printing resources.

The internal printing departments are, therefore, free to concentrate on the production of documents and publications which cannot be conveniently produced in time by other means.

There are two printing departments in Marks and Spencer, but the principles of their control and operation are identical. They differ only in the type of work they do, and it is more by accident than design that they are not in the same building. One department is at Wood Green, North London, and the other at Burnley, Lancashire.

The Wood Green department is equipped with office litho duplicators for the production of forms, letters, circulars, manuals, minutes, etc. The Burnley department has the letterpress counterparts of the office litho duplicators, and prints price tickets for point-of-sale display.

Simple equipment which operates quickly and cheaply, yet produces work up to printing trade standards, was chosen in pursuance of the company's policy not to encumber their main purpose as retail distributors with problems belonging to other trades.



PREPARATION. Typists, forms drawers, readers, the progress clerk and the despatch clerks are housed in one large department at Wood Green. 'Copy' received before noon is printed and despatched by 4 p.m.

Let us look first at Wood Green. There are three sections: editorial, print buying and an internal office printing unit. The first section is responsible for publications, and the other two for print production.

Three 'Streams'

Publications are split into three 'streams': temporary instructions, permanent instructions, and general information. Temporary instructions are issued in the form of a daily instruction sheet, which can be thrown away after three months. Permanent instructions are issued in loose-leaf manuals, and alterations

to systems and policy are circulated on sheets which can be inserted in the loose-leaf books.

The separation of temporary from permanent instructions at the point of issue forestalls problems that would otherwise arise in the filing of instructions at the retail stores. It is immediately apparent how long and where the instructions are to be kept. The manuals are designed for the use of the various categories of staff employed in the retail stores, and the instructions in them are indexed and cross-referenced. Information is kept apart from instructions and is issued in separate circulars.

The print buying department is responsible for all printed matter in the company. They determine where and how it is to be produced, which trade printers are to be employed, or whether the work is to be printed internally. They keep a record of all work and are responsible for expenditure.

The internal printing department consists of five sections and work flows from one to the other in the following order: typing, checking (or reading), machining (or printing), collating and despatch.

Work is controlled by means of a

Continued on page 144



DESPATCH. Each lateral file represents a retail store. Publications are transferred from the files into special boxes and sent to the London headquarters for mailing.

B

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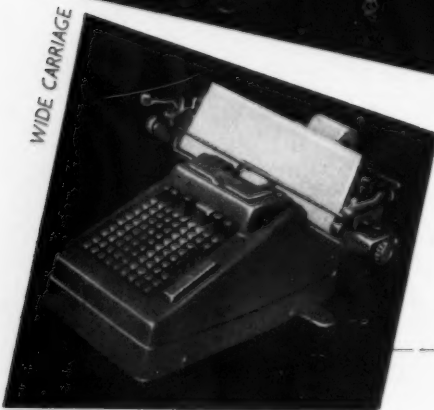
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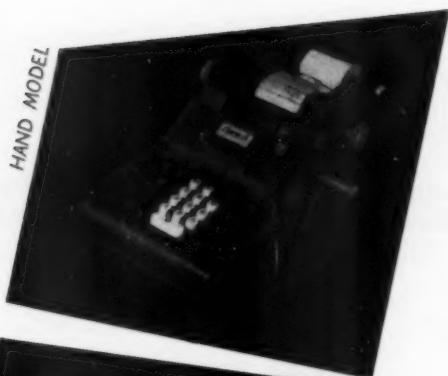
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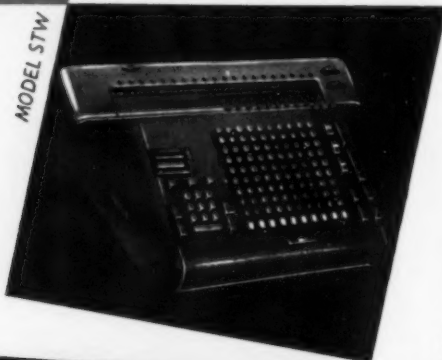
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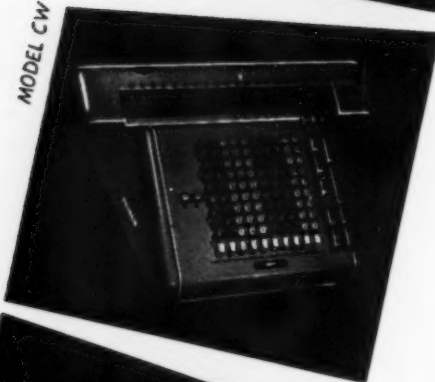
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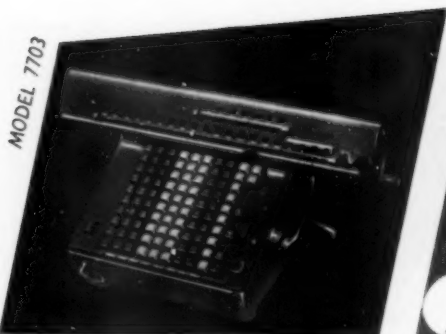
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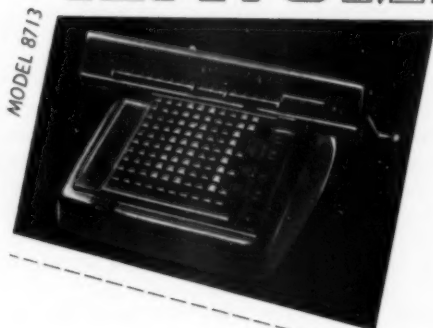


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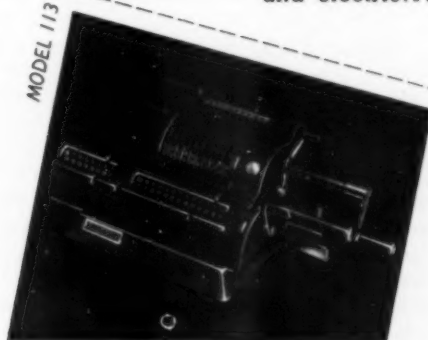
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ob docket that gives all the printing specifications, and progress is regulated on a visible card index system. Coloured tags are used to signal degrees of urgency, the work being progressed from one section to another in accordance with these symbols.

To see how the system works, let us follow the production of one typical document of the sort that occurs every day—namely, the daily instruction sheet or daily notes.

The notes are compiled by the editorial section from miscellaneous instructions received from various head office departments, of which there are more than 100. They are edited and, where necessary, spelling and grammar are corrected; emphasis is laid on plain, clear English. After they have been given headings and sub-headings, they are numbered and sent into the office printing section. All this takes place between 10 a.m. and 12 noon.

At the printing section, the notes are handed to the typists, who (at Wood Green) are equipped with office composing machines which justify right-hand margins and give a wide selection of type faces and sizes. Copy goes to a 'forms drawer' only if lines or boxes are to be incorporated. It is then typed on to a paper 'mat' or a thin metal plate using a special paper ribbon. Mats give between 100 and 750 prints, according to the quality. But metal plates give more than 5,000 prints, so these are always used for Daily Notes, of which 1,200 copies are required.

Thus the costly and time-consuming element of photo-litho is bypassed. The section, which does not have any photo-litho equipment, achieves much of its speed as a result of this direct typing technique.

Copy and typed master then go to



A recent development is the standardization of document headings. Four colours are used: red, for urgent matter; green, for personnel and social notes; blue, for temporary instructions and information; and brown for alterations to catalogues and manuals.

the readers' section. If a mistake is found, the plate is returned to the typist who makes the correction by removing the image with a glass fibre brush and retyping. This part of the work is normally completed by 2.30 p.m. After being O.K.'d by the reader, the corrected plate is passed to the editor for final approval. It is then given to the machine section.

Off-set Litho Machines

This section has six off-set litho machines: three foolscap machines, capable of producing 6,000 sheets per hour; two brief machines, capable of producing 5,000 sheets per hour; and one hand-fed foolscap machine which turns out 3,000 sheets per hour. There are also two perforating and folding machines, and one table shift drilling machine.

The master is placed on one of the foolscap machines and run off. The run is completed by 3.30 p.m. and the job is immediately taken to the collating and despatch section. By 4 p.m. the Daily Notes are ready for despatch.

Bulkier documents are dealt with

differently. In the collating and despatch section, there is a series of lateral files, one for each of the retail stores. One copy of the matter is put into each file. The contents of each file are then placed in specially-constructed cardboard cartons, with pre-addressed labels.

The typists produce an average of 520 masters a week. As there are seven of them, this gives an average weekly production of about 75 masters per typist. The maximum production of this section is calculated by time and motion study, and by fixing a time for each job. The efficiency percentage is then calculated by dividing the productive machine-hours by the actual machine-hours and multiplying by 100. The present rate is 77.4 per cent.

An average of 550 masters per week is handled by the off-set litho machines. The discrepancy between this and the figure given above is explained by the fact that some masters entail no typing because they are reprints extracted from the library of masters. Altogether, the average number of prints produced in a week has been around the 250,000-mark, which represents a high efficiency rate.

Four people are employed on drawing forms. Three were enlisted straight from secondary modern schools and trained "on-the-job" by the company. Their work is eased by the fact that the company make use of pre-printed plates, prepared

Simple equipment which operates quickly and cheaply, yet produces work up to printing trade standards, was chosen. It was the company's policy not to encumber their main purpose as retail distributors with problems belonging to other trades.



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by the manufacturers in cases where the additional cost of this practice is economically justified.

Now let us look at the ticket printing department at Burnley.

Price tickets are printed in two or more colours and, in addition to the price, give details of the merchandise. A policy of the company is never to display a defaced or altered price ticket.

The speed of sales at stores regulates the tempo of business throughout the company. As there is a constant flow of merchandise to the stores, it is essential that the supply of tickets should be regulated accordingly. In addition, prices fluctuate quickly, so there is a real need for a 24-hour printing service. If a decision is made to lower or raise the price of a certain item, then by first post the following morning all stores should receive newly-printed price tickets. It is necessary to turn out a two- or three-colour job in a matter of hours, then despatch it to more than 230 stores in the same afternoon!

At Burnley, there are 12 standard

Publications are split into three 'streams': temporary instructions, permanent instructions, and general information. They are printed differently so that when they arrive at retail branches it is immediately apparent how long and where the instructions are to be kept.

printing machines of a type designed for office use. A catalogue has been compiled of every type of printed price ticket that the company require—about 1,250 altogether. Standardization of the colour combinations and designs for different classes of merchandise permits the patterns and backgrounds of tickets to be pre-printed, so rush jobs are simplified by the fact that only letters and figures are over-printed on existing 'blanks.'

So that printing instructions can be sent in a hurry, without any danger of errors, there is a direct teleprinter service between the London headquarters and the Burnley printing department.

To show how the work is organ-

ized, it is proposed to describe a hypothetical case involving a new line of merchandise, from the time when the merchandise is ordered from the supplier.

When the buying department make out the order to the supplier, they also raise a ticket order. This tells the printing department that merchandise is being sent to 30 specific stores on trial. The information required on the ticket is given in detail, together with the date the merchandise will arrive at the stores. The required number of tickets are then run off and sent to the stores in question. At this stage, there is no immediate urgency in the work.

If the line is successful and it is decided that all stores should have

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B

the merchandise, the buying departments instruct Burnley to print the necessary tickets. Once again, it is a matter of synchronizing the arrival of the tickets at the stores with the arrival of the merchandise. Usually there is no immediate urgency.

The urgency arises, however, when there is a price alteration. It may happen that, for various reasons, it is decided to lower the price of the merchandise the next day. Immediate action has to be taken. London head office send a teleprinter message to Burnley, giving them the new price and telling them to get the new tickets to all stores by first post the next morning. Burnley are prepared for such emergencies, and it would be quite normal for the tickets to be run off by 4 p.m. and mailed by 5 p.m.

Three o'clock in the afternoon is normally the 'deadline' for work which has to arrive at the stores the following morning. In emergencies, however, Burnley can handle messages received as late as 4.30 p.m. Obviously this calls for a highly

Under special circumstances, 750 two-sided tickets can be run off within one hour of receiving the teleprinted message, and despatched in another hour.

organized system and extremely competent machine operators.

When the teleprinted message is received at Burnley, a copy of the ticket to which it refers is drawn from stock, altered by hand, checked, and then set up on an available machine. If the instructions specify that the price should be printed in (say) red and a machine is already running on this colour, the job which it is doing is taken off when completed and the new one put on. This saves the time and trouble of cleaning down a machine.

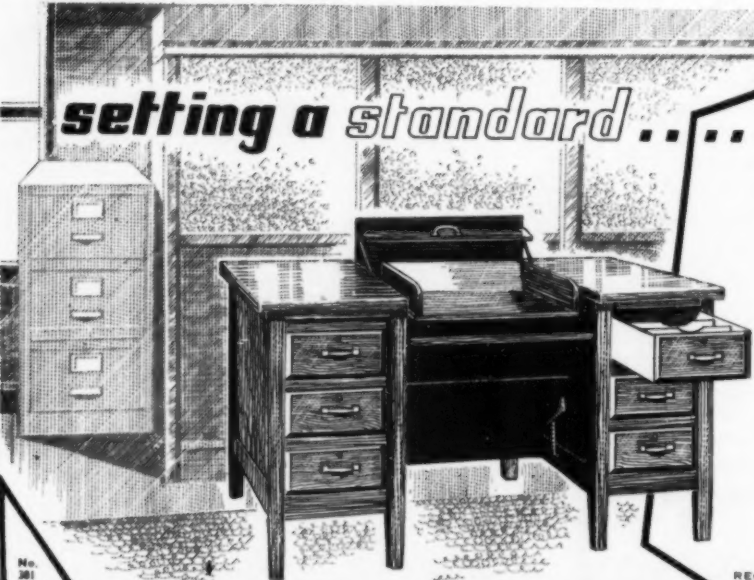
Nine of the machines at Burnley can print only one colour at a time, but the other three can print two colours simultaneously. The required number of tickets are run off and passed to the collating and des-

patch department, which works in exactly the same way as its Wood Green counterpart. The tickets are then put into the addressed boxes, and a van takes them to the local G.P.O.

Under special circumstances, 750 two-sided tickets can be run off within one hour of receiving the teleprinted message, and despatched in another hour. It should be made clear, however, that normally several days' or even weeks' notice is given to Burnley if new tickets are required.

The bulk of their work lies in keeping the stores supplied with tickets, which are re-ordered regularly. The staff employed at Burnley on printing operations only consists of 12 composer/machine operators and five despatch clerks.

END



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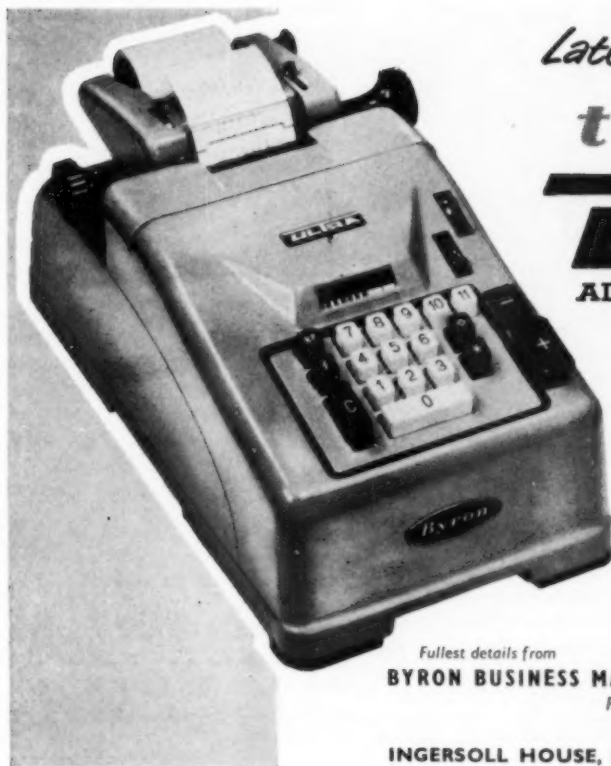
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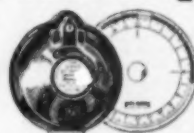
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OVEMBER, 1956



SHORT CUTS TO OFFICE EFFICIENCY

6-Step Simplification

THE results of any attempt to simplify and improve office routines depend first and foremost on the supervisors. Their co-operation must be won; and they must be told—clearly, precisely and tactfully—what is expected of them.

Some firms find that an effective way of doing this is to organize a series of work simplification discussions and demonstrations. Here is a six-step programme drawn up by F. E. Shelton Jr., office manager of the Standard Register Co. Dayton, U.S.A.—in a paper which gained one of the two awards made annually by the American journal *The Office*, to members of the National Office Management Association who have given the best talks to N.O.M.A. branches.

1—Teach supervisors how to select a job for simplification. Point out that the most fertile fields lie in the

bottleneck, the job which takes a lot of time, the job which takes a lot of running around.

2—Teach them to break down the job to give a complete and accurate picture of what is being done. It has been said that a problem well stated and written down on paper is half-solved.

3—Question every detail of the job. Look at every step which has been written down and ask *why* in at least six different ways. Preconceived opinions and impressions begin to disappear when you ask 'why.'

4—Develop the improved method. This is not a distinct step which abruptly follows the questioning. It begins while you are still questioning. Many an improved method comes simply from organizing the notes made during step 3.

5—Install the improved method.

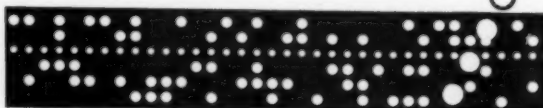
When installing anything in offices today, the problems fall into just two classifications: technical difficulties and human difficulties. The work simplification approach helps to overcome both. The questioning step highlights the technical aspects, in most cases causes you to see the solution in advance, and helps you to foresee pitfalls. The 'team attack' automatically lays foundations for overcoming human difficulties.

6—Follow up. This is a most important step because the solution—no matter how good when installed—will certainly not solve your problem and help to reduce costs unless it is continuously applied.

The work simplification programme should be spread over at least six weeks, in Mr. Shelton's opinion, and the six steps should be dealt with at the rate of one a week.

Even where a full-scale programme is not favoured, the steps are a useful guide to 'one shot' operations aimed at the simplification of specific jobs or routines.

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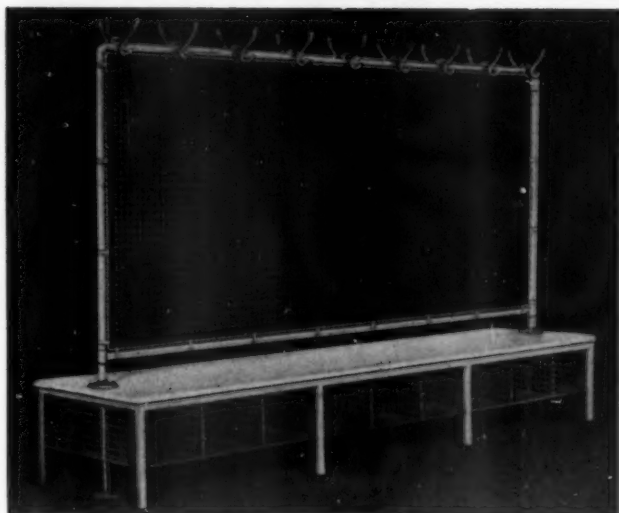


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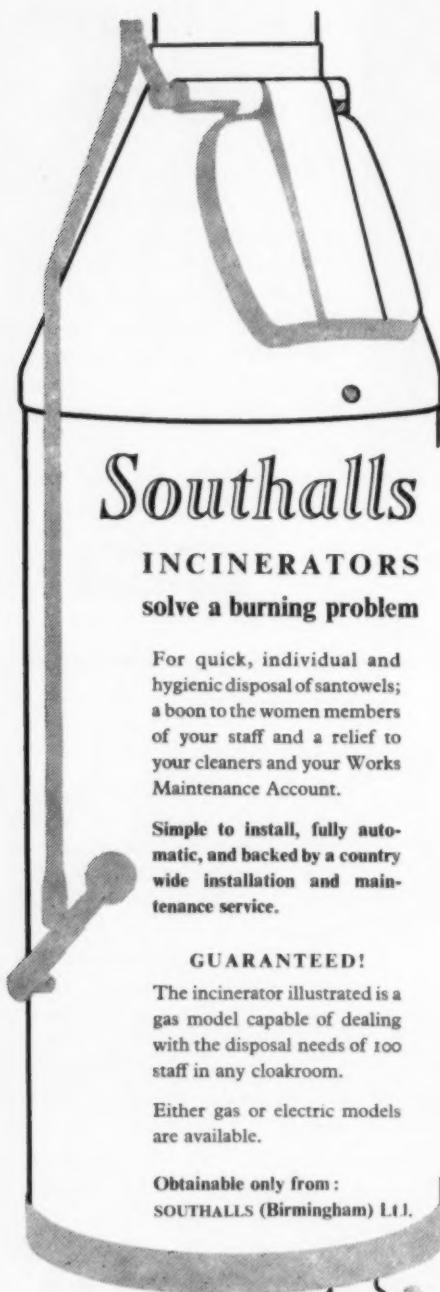
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Now Their Staff Come Back After Hours

By WILLIAM GUTHRIE

Here is a small business with big-firm ideas about welfare.

Recently they converted a disused paintshop into a modern canteen and social centre for their employees. It cost £8,000 but the management are convinced that they are getting back their investment—in more ways than one.

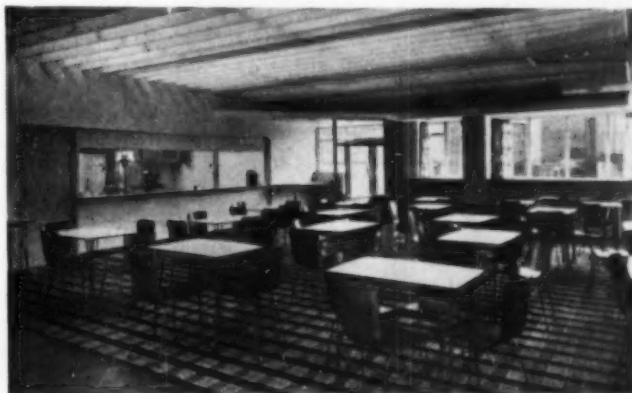
A KINGSTON-ON-THAMES garage, with 160 employees, provides welfare facilities of the sort which are very seldom associated with firms of this size. Their latest venture is a combined centre and canteen which cost no less than £8,000.

But the management are convinced that the money and effort spent on such things are not wasted. For the success of their welfare policy is reflected in the firm's ability to attract—and keep—just the sort of man their specialized business needs.

The firm—Lamberts of Kingston-on-Thames Ltd., one of the largest Ford distributors in Britain—was founded 36 years ago as a family concern, and despite the growth which has occurred since then, the management are anxious to keep alive the original 'family' relationship.

The social centre, as well as being one of Lamberts' most recent ventures, is also the most unusual. It is thrown open for the use of employ-

ees and their guests on weekdays from 6 p.m. and every Saturday from 1 p.m. Men can go to its bar after leaving work and have a drink before returning home. Or they can come later in the evening with their wives and guests to watch TV or to have a game of darts.



Clever reconstruction gave a new look to an unprepossessing building. The paintshop's high gable and heating pipes were disguised by installing false rafters. A hardwood floor—normally protected by carpeting—was laid over the original concrete.

How have the employees responded to these facilities? Certainly there has been no indication that they dislike the idea of mixing in their leisure hours with the people with whom they have to work all day—a point which is often put forward as an argument against providing welfare amenities outside working hours. Moreover, competition from the many recreational attractions in the Kingston area seems to have been met successfully.

This may be due partly to the employees' appreciation of the management's generosity in providing the centre. But contributory factors are undoubtedly: (1) the centre's cleanliness, comfort and general air of luxury, compare favourably with the average 'pub'; and (2) the fact that drinks are sold at prices well below usual club charges.

The Ford Motor Co. are displaying the greatest interest in the social centre with a view to the provision of similar facilities in the premises of other large main dealers.

The provision of a social centre and a canteen had long been an aim of Lamberts but had always been frustrated in the past by lack of space. It became a reasonable proposition this year when the firm were able to acquire a 20,000 square-foot site for a workshop extension.

The former paintshop was immediately earmarked for the new facilities, although its general construction, dimensions and appearance



By drawing curtains, the bar and social centre can be isolated from the canteen. This adds a touch of warmth to informal gatherings in the evening.

suggested anything but comfort. Its high gabled roof, stone floor, and large, ugly overhead heating pipes presented major problems. So an £8,000 face-lift was put in hand.

This consisted of: (1) laying a hardwood parquet floor, suitable for dancing, over the original stone one; (2) the ingenious but simple expedient of erecting false rafters just below the heating pipes and covering them with semi-transparent-netting, which performed the double service of camouflaging the pipes instead of interfering with them, and reducing the apparent height of the gable to a cosy dimension.

Walls were replastered and painted an attractive blue, and 'contemporary' lighting installed at regular intervals. With dances and social functions in mind, the building was wired for sound reproduction, and a stage was built suitable for a dance band. A radiogram was also provided. In the canteen section of the premises, up-to-date catering equipment, and contemporary tables and chairs were installed.

Volunteer Stewards

At present the bar is making a weekly profit of about £5—first, because the premises are provided rent-free, and second, because there is no expenditure on bar stewards or supervision, since these are provided by volunteers from the sports and social club.

The club has general responsibility for running the centre, ensuring that

local licensing laws are observed, and preventing malicious damage or rowdiness. The management strictly avoid interfering in the day-to-day running of the centre. The £5 weekly profit is at the present credited to the equipment funds of the football, cricket, table tennis, darts and angling clubs, who now have their headquarters in the centre.

In the winter, with a large number of socials and dances expected, the bar profits will certainly rise, so the management have reserved the right to direct that any additional profit should be used to reduce the canteen subsidy. For meal prices are fixed to cover the cost of food only, and in consequence the canteen runs at a loss of about £10 per employee per year.

The canteen, which is open for service from 8 a.m. until about 5 p.m., is at present used for full meals by a daily average of 60 employees. It must be borne in mind that most of Lamberts' employees live near the works, and also that experience of operating outside the holiday period has still to be gained.

Bosses' Corner

Apart from meals, 250 rolls and cups of tea per day are sold, and a trolley service takes snacks round the works during break periods.

The canteen has a staff of seven: manageress, cook, assistant cook, an assistant for serving and general duties, and three part-time servers. All are paid at above the usual rates. There are no waitresses.

The management eat apart from their staff—but only as a result of an unsuccessful experiment. When the canteen first opened the management decided to have their meals in the main body of the canteen. It was found, however, that the employees were rather self-conscious about having 'the boss' among them, so it was decided that the executives should eat separately in a corner of the social

centre. Here they can discuss business over the table—which might have been impossible otherwise. Nevertheless, they get the same food as their employees, the only difference being that it is served at the table by the full-time assistant. A three-course meal can be had for about 2s. 2d., according to choice. The main course costs 1s. 5d. or 1s. 6d.; soup and sweet are both less than 6d. each.

Canteen service is exclusively for the employees during working hours, except with the special permission of the management. But the Christmas party for the employees' children, a long-standing tradition, will this year be held in the canteen, followed by a dance, with the carpet which protects the new parquet flooring rolled back. In previous years, Christmas festivities have had to be held in the huge expanse of the showroom.

The canteen and social centre should be viewed against the broad pattern of Lamberts' activities in the field of welfare and staff relations.

Their latest innovation is a school for apprentices of 15 and upwards, where about 30 boys, in groups of four, receive both theoretical and practical instruction from the company's most experienced engineer, who visited the Ford school at Dagenham to study their methods. The courses are graded and consideration is being given to recognizing success in each grade by giving cash prizes. And although the firm's views on technical training for motor apprentices do not coincide exactly with those of the technical schools, the boys are released, if they wish, to attend day classes.

A recently-introduced scheme is the hiring of some of the company's cars to employees, at a nominal charge, for holidays. The cars are booked up well in advance.

Do the company's welfare provisions pay off? The management answer with an unqualified yes. They point to the 'Lambert Family Gallery' in the reception bay—portraits of 60 employees with a service of ten years or more. The average service of the entire staff, excluding first-year boys, is 11 years.

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SB 80

This is essentially a no-nonsense canteen. But care over the choice of colours has resulted in a bright cheerful atmosphere



This Canteen Puts Personal Likes First

By WINIFRED McCULLOUGH

Senior Canteens Adviser, Industrial Welfare Society

Good food and friendly service are the three points on which the John Knight Ltd. canteen prides itself. Diet dinners and many extras are available, and special requests can usually be arranged. As for cleanliness, there is a 'White Knight Cup' competition to spur on the efforts of the canteen staff.

THE flower-surrounded Royal Primrose Hall, part of the Silvertown factory of John Knight Ltd., houses an employee food service and a social centre. The works dining-room there is a long, many-windowed room; clean as a button, it is furnished with primrose-covered tables and blue, red, green and yellow chairs.

Next to it are other dining-rooms for foremen and office staff, managers and directors, but it is the works dining-room itself that sets the fresh

and comfortable tone of Royal Primrose Hall.

There is not much talk about subsidy and budget, food costs and gross percentages. The first thing at Knight's is good food, the second a good choice, and third good, friendly personal service.

The present canteen manageress, Miss I. Gregory, joined the company recently. She came from one of the Ministries with sound experience behind her. Her kitchen is big and light but not very modern, and plans

to bring it up-to-date are under discussion.

There is talk of work study, too, and Miss Gregory is enthusiastic about it. She realizes that to get the kitchen right, it is essential to cut out unnecessary steps and have a straight work flow.

Day begins at 7 a.m. with tea and snacks for early starters. Morning tea as such is made individually by departments. The main work of the canteen is to serve over 300 lunches between 12 a.m. and 2 p.m.

Here is a typical works menu at Royal Primrose Hall:

| | |
|--|-------|
| Soup, in season | 3d. |
| Meat pudding, cabbage, creamed potatoes | 1/3d. |
| Roast beef, Yorkshire, roast potatoes, garden peas | 1/3d. |
| Fried cod with chips | 1/3d. |
| Fried skate or fillet of plaice with chips | 1/9d. |
| Ham, egg, tomato and chips | 1/9d. |
| Assorted salads with potatoes or bread and butter | 1/3d. |
| Jelly and custard | 4d. |
| Apple pie and custard | 4d. |
| Steamed fruit pudding and custard | 4d. |
| Plums and custard | 4d. |

If anyone needs a diet dinner it is available. If anyone needs extra potatoes they are available. If anyone needs anything or any combination of things not on the counter, a



The view 'backstage'—gleaming table tops and excellent hygiene. The kitchen itself will shortly be modernized, and work study will be used in determining the new layout.

word in season will probably get it for them.

A member of the committee which reports monthly to the joint works council is present in each dining-room for every meal. Known as a referee, it is his or her job to take up com-

plaints and deal with problems as they arise. But there are few complaints and problems seldom arise. The 'Canteen' section of the council's minutes reveals a general level of satisfaction. The manageress attributes this happy state of affairs

to the excellent co-operation between the management and the staff of the canteen.

To do 300 or more dinners, with waitress service in two of the rooms, there are 20 assistants plus the cook-supervisor and manageress. Assistants earn about £6 0s. 0d. for a 42-hour week, and occasionally work overtime when special functions take place on the canteen premises.

Cleanliness Prize

A 'White Knight' Cup is awarded each year to the factory department with the highest standard of cleanliness. Last year the canteen won it for the first time. This year it is trying hard to repeat its success. Miss Gregory says: "The canteen should set the standard of cleanliness for all other departments. We simply *must* retain the cup."

A committee inspects each department once a month and decides on its standing in the 'White Knight' competition. One hundred points are the



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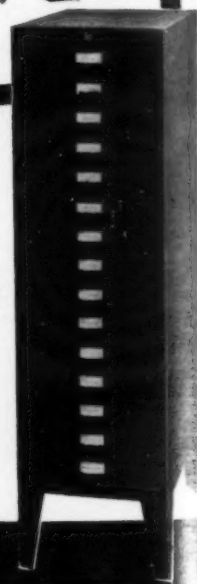
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maximum which can be gained monthly. When a department loses points it gets a letter from the committee saying how, when and where they were lost. If maximum points are awarded, the department gets a letter of congratulation from the chairman of the inspecting committee.

At the beginning of this year the canteen suffered from changes of staff and absences through illness, and fell to 13th place. Now, with four months to go, it is back to third place and running very well indeed. If it wins, every person in the department receives a personal award. So there is, in fact, a double incentive.

This cup for cleanliness is a good idea. If not inter-departmental, it could be offered for competition between different sections of the catering staff. It is true that kitchens and stores, servery, dining-rooms, garbage areas and vegetable preparation rooms ought to be 100 per cent clean the whole time. But a little encouragement does help, and the cup, symbol of cleanliness, can provide just that.

END

10 Rules for Canteen Safety

1—Look for spilled grease or excessive water on the floor. Sprinkling sawdust on slippery patches is a temporary precaution. But the real precaution is to find out *why*—and see that it does not happen again.

★ ★ ★

2—Are gangways kept clear? Remember that a canteen worker carrying a tray of food or crockery cannot see the ground just in front of her.

★ ★ ★

3—Sharp knives should be stored in the racks or drawers provided. All those in drawers should point in the same direction—a hasty grab at the blade of a sharp knife can cause a very nasty accident.

★ ★ ★

4—Doors of cupboards, ovens, steamers, refrigerators, etc. should be kept closed. 'Bumping into doors' is one of the most common causes of canteen accidents.

★ ★ ★

5—See that all assistants wear solid-toe, low-heel shoes with leather or rope soles. On wet floors, rubber soles are dangerous.

6—Make sure that all machinery is properly guarded.

★ ★ ★

7—Provide plenty of heat-proof oven cloths. Cooks should use two cloths, one in each hand, when removing dishes from the oven.

★ ★ ★

8—See that women assistants are not called upon to lift loads which are really too heavy for them. (Some utensils may be too big for safe handling when filled.)

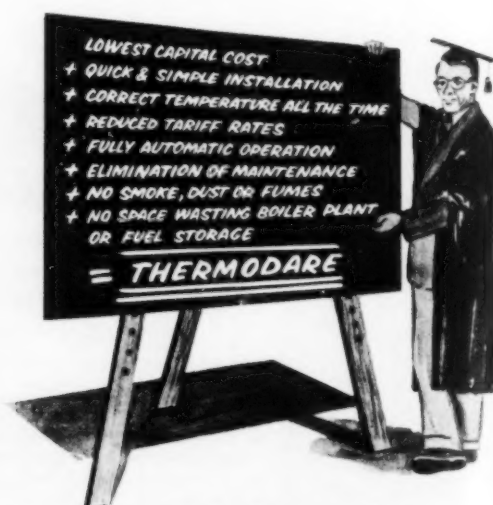
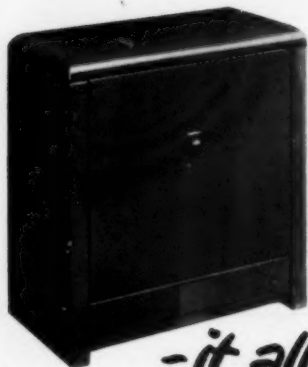
★ ★ ★

9—Discourage assistants from wearing heavy rings or bracelets which might catch and cause spills. Make sure, too, that torn overalls are repaired immediately or discarded.

★ ★ ★

10—See that the canteen first-aid box contains in an orderly arrangement all the supplies recommended by the doctor or nurse.

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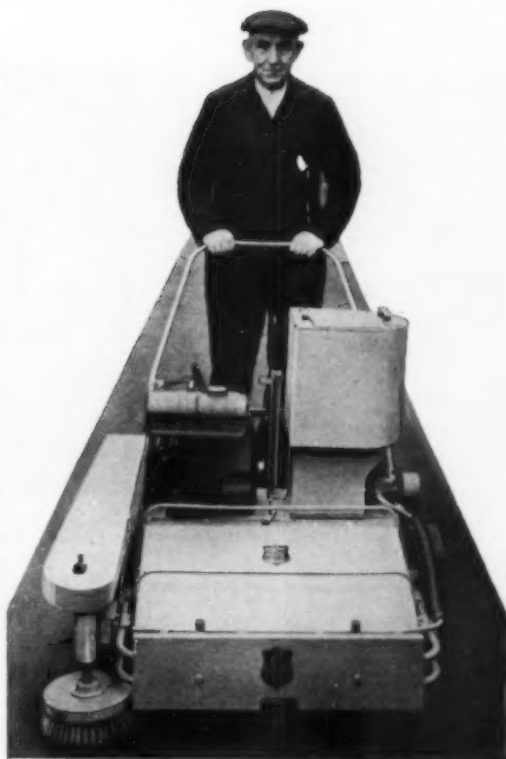
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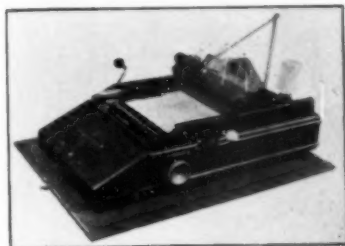
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Selecting Variable Information

AVAILABLE at an extremely competitive price, the *Rena* line-printer spirit duplicator is ideal for systems work which requires variable information to be printed on a series of forms. It is a portable flatbed model, which employs selective masking in a simple yet efficient process. The top part of the master is used for



Ideal for systems work

typing the standard information which goes on all forms—customer's name, order number, quantity and any details which must be known to all recipients of the forms. The remainder of the master contains the variable information. When forms are run off, standard headings are reproduced on each; the masking device enables one or more lines to be printed as required.

The mask itself simply consists of a piece of paper in which a slot is cut sufficiently wide to allow certain lines to be printed. A turn of a handle moves it up or down the master as required.

Though the machine uses the spirit duplicating process it can, in fact, be used as a normal duplicator. When used for spirit duplicating, however, no stencil is needed. Drawn, written or typed matter is

reproduced with equal ease, the manufacturers claim, and several colours may be printed at once.

Capacity of the unit is 300 copies from each master in as many as seven colours. The machine does not require servicing or special skill to operate, and can print on any paper from airmail to stock card, up to 8½in. by 11½in. in size.

A new fluid-free system permits even impressions, while a piercing cylinder for fine setting ensures perfect registration for colour work.

Enquiry Ref. No. O.11/1

Versatile Drawing Board

THE *Fordigraph Master* is designed primarily for the ruling of statistical or analytical forms when producing a master sheet for spirit duplicating. But the unit also serves as a medium-sized draughtsman's outfit for all general-purpose drawing in sizes up to 16½in. by 16in.

Light, portable and compact, the equipment comprises an ebonite drawing surface under which is fitted



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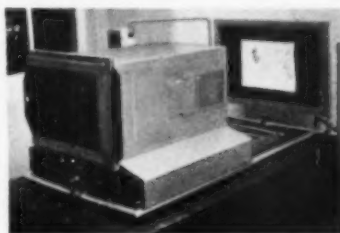
two supporting legs capable of raising the board to an angle of 20 degrees when the unit is opened. Along the side of the drawing surface is fitted a sliding scale in inches, and measurements are made by reference to a cursor. Vertical lines are added either by unclipping the T-square and off-setting, or by the usual method of using a set-square protractor.

A spring clip along the left hand edge of the board holds work in any convenient position.

Enquiry Ref. No. O.11/2

Offset Plate Production

BY combining four functions of litho plate production, the *Lithotex Repro* unit is able to offer a complete plate-making service to the small offset press user. Compact and easily transportable, it comprises



Combines four functions

camera, retouching desk, whirler and printing-down frame. Its usefulness extends to the specially constructed packing case, which is designed to serve as a bench and sundries storage cabinet after installation.

The manufacturers say that the camera is capable of making first-class line negatives and (by using a modern 'screen included' film), half-tone negatives. Among the features

★ Equipment included in this survey is selected for its news value alone. The names and addresses of the manufacturers or distributors of items mentioned can be obtained by writing to the Editor, BUSINESS, Mercury House, 109-119 Waterloo Road, London, S.E.1, quoting the appropriate reference numbers. Manufacturers are invited to submit details of new and interesting products for consideration. An original photograph should accompany each item submitted.

Business EQUIPMENT SURVEY

of the camera attachment is a simple yet effective means of adjusting copy position, allowing even an inexperienced operator to work it.

When the back-board is removed from the copyholder and two supporting arms are swung down, a retouching desk is available for negative-spotting and touching-up. Pushing the camera carriage to its foremost position reveals the hand-operated whirling tray. Moisture-adhesion holds the plates—up to a 14½ in. by 17½ in. in size—on the rotating base of the whirler. Coating is carried out in the normal way; drying is done with a hand air drier.

For printing down, two pieces of ½ in.-thick glass, the surfaces of which have special vacuum-like properties, are used to obtain adequate contact. A mercury vapour lamp is used for exposure, and has an intensity comparable with that of an enclosed arc lamp. The six camera lamps are each rated at 100 watts.

Enquiry Ref. No. O.11/3

Low-priced Pencil

NEW in Britain—although millions are sold every year in the U.S.A.—is a low-priced propelling pencil called the *Scripto*. One of its most attractive features is that the 4 in. lead and the propelling mechanism are always visible through the translucent plastic of which the pencil is made; thus the user knows exactly when a refill is needed.

Available in four colours—ruby, emerald, amber and sapphire—the *Scripto* has an eraser in the top.

Enquiry Ref. No. O.11/4

Breast Pocket Communication

THE new *Coder/Oscillator* staff location equipment operates by magnetic induction. It consists of a mains-powered transmitter, generally located in the vicinity of a

telephone switchboard, and a number of personal receivers, each of which weighs only 5oz. and measures less than 6 in. in length and slightly more than 1 in. in diameter. The only link between the sending and receiving apparatus is a loop of wire attached to the outside of a building.

The system provides 56 channels. By using a different call sign it is possible to call up to 336 people individually. But any number of people can share one channel.

Messages are relayed from the transmitter through a panel board of numbered push-buttons. When the operator presses a button, he makes contact with the selected receiver by magnetic induction.

Besides its low cost in comparison with some other systems of personal communication, the *Coder/Oscillator*'s primary advantage is that its sound (a persistent buzz) is confined solely to one receiver. By transmitting different types of signals, the equipment is able to convey a variety of instructions. For verbal messages the user simply presses the receiver clip and listens.

The receivers are powered by

miniature mercury-cell batteries which cost only a few shillings and last from eight to 10 weeks.

Enquiry Ref. No. O.11/5

Accurate Place-finding

TWO models are available of the *Truvox R1* tape recorder. In one of them, place location on the tape is effected by a timing scale in minutes for speeds of 3½ in. and 7½ in. a second. The other model has a place locator which is said to be more accurate than any other method.

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Effective place locating

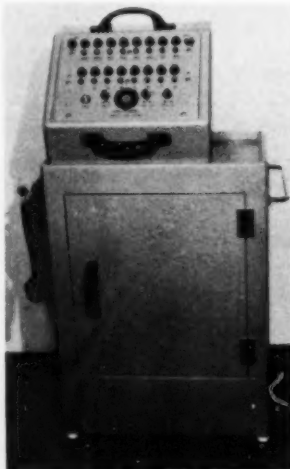
cally sets the instrument for playback, so that accidental erasure of newly-recorded material is virtually impossible.

Servicing is simple. When four screws are removed from the outer case, the whole unit—comprising tape deck, amplifier and loudspeaker—slides forward on its panel, allowing easy access to all components.

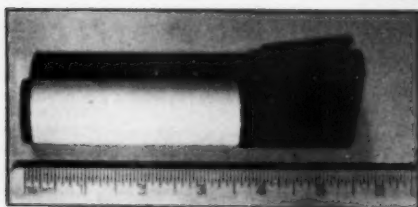
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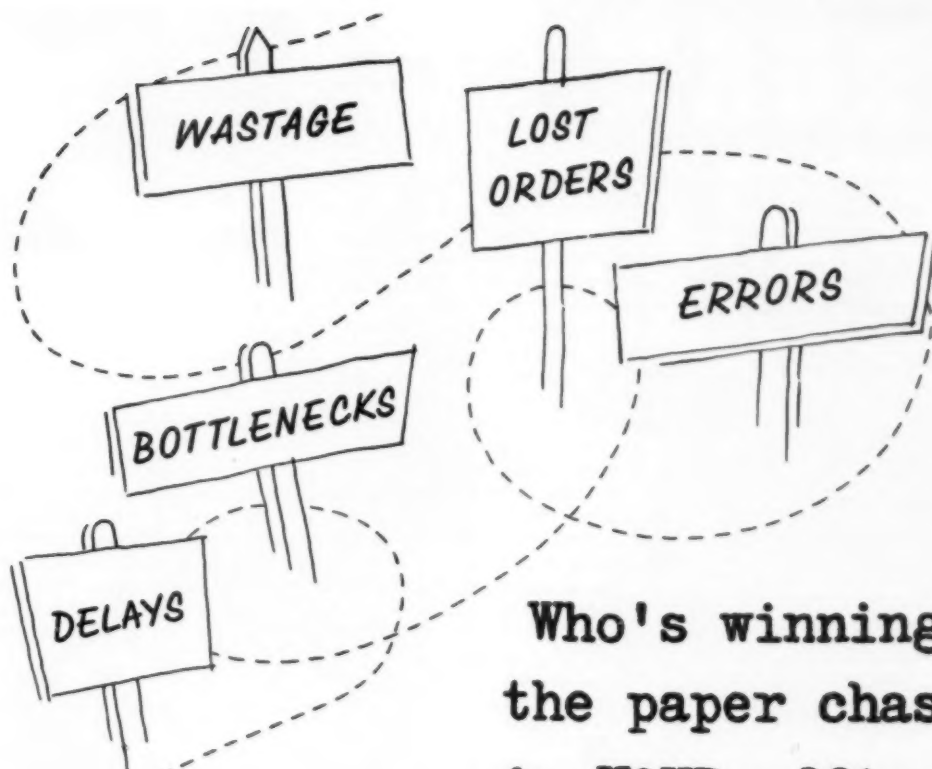
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The light-weight receiver (left) may be used for either verbal or signal communication. The transmitter (above) can reach up to 336 people individually





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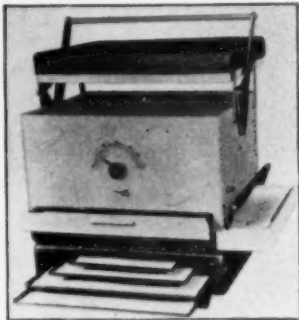
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The machine is "colour apprecia-

tive" and will copy all types of pen fluids, inks, pencils, etc. It measures 21in. by 18in. by 14in.

Enquiry Ref. No. O.11/7

Speedy glue pen

CLEAN and easy to use, the new *Ofrex Sticker* combines recent developments in adhesives with novel packaging in the form of a pen that supplies blobs of adhesive.

Two outfits are available. The large set consists of two pens, and refill and strip adhesive devices. The small unit consists of one pen, a smaller refill and a spreader.

The pens, similar in appearance to a ball-point pen, supply a measured dot of adhesive with each gentle downward pressure on the point. The adhesive is tenacious and almost instantaneous in action. Each pen contains approximately 4,000 'dots.'

The spreader device is basically a polythene container, which responds to hand pressure. This is fitted with a special nozzle which can be changed to suit the job in hand.



Glue to order

An additional advantage of the adhesive is that it can be used for 'pre-gumming.'

Enquiry Ref. No. O.11/8

Mobile Transcription Unit

THE new *Stenmobile* transcription trolley is designed to accommodate most types of dictating machine, plus wires, microphones, spare reels and all relevant correspondence in a fitted (and removable) filing tray. Compact, easily-moved and moderately-priced, it is a useful addition to a busy office.

Also available two compact travelling cases for housing dictating



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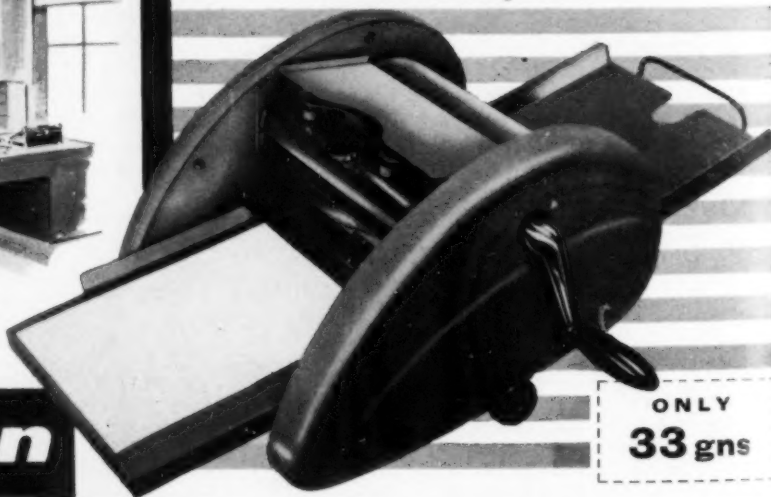
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Imperial typewriters



IMPERIAL TYPEWRITER CO. LTD.
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NOVEMBER, 1956

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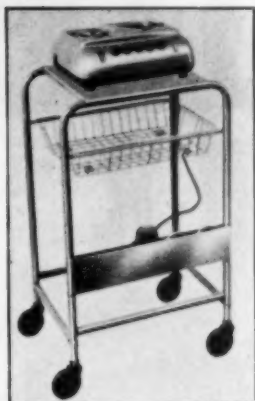
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Business EQUIPMENT SURVEY



Keeps executive's desk tidy

equipment. Both models allow the machine to be used without removing it from the case, and have fitted compartments for accessories. One model is of leather construction, the other of tweed fibre.

Enquiry Ref. No. O.11/9

Space-saving Cabinet

BETWEEN 50 and 80 standard *Vetro* lateral suspension folders

can be housed in a new cabinet designed especially for this filing system. With grey hammer finish, the cabinet is attractive enough to be used by executives who wish to have private records on hand.

Soundly constructed of steel sections and flush-fitting panels, it has a drop-down dust-proof lid which can be used as a platform for sorting or referring to papers. Alternatively, the lid can be slid out of sight, com-



Constructed for dustproof filing

pletely exposing the contents of the file.

The cabinets are drilled so that they can be bolted together, one on top of the other, side by side, or back to back. In this way a complete

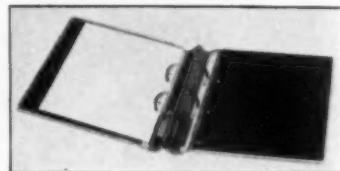
dustproof filing system can be built up. The fact that there are no drawers to open or close leads to big saving in office floor-space.

Overall size of the cabinet is 31½ in. by 15½ in. by 16½ in. A lock can be fitted, if required, for an additional charge.

Enquiry Ref. No. O.11/10

Quick Reference File

PROVIDING quick action and sheet security, the *Sabre Prong* binder file is designed for limited-life documents such as delivery notes, receipts and copy invoices. It consists of a steel casing which operates by a spring lever, and double-sided coverboards which are riveted to metal hinges. Two sizes are available, each accommodating a batch of



No spilled pages



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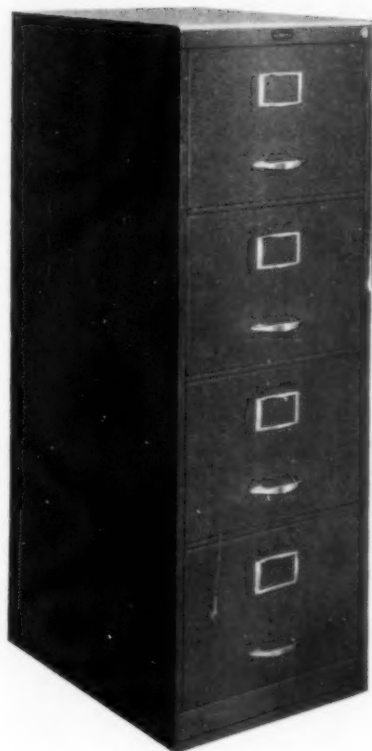
- A** TROUBLE-FREE writing machine that is far ahead of normal typewriter development.
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- R** EVOLUTIONARY time-saving controls.

Here at last is the Secretary's dream—a typewriter that must be tried to be believed—and above all a typewriter that produces beautiful writing.

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*Carruthers,
I don't
believe it!*



"It was only yesterday that I asked for last year's figures and already they are on my desk . . . and correct too!"

Our managerial friend fails to move with the times: the days of lengthy delay between asking for figures and obtaining results are long past. Automatic, electrically controlled computing and accountancy machines provide almost instantaneous answers to any mathematical problem. But, like all things electrical, they depend for their consistency on a stable mains power supply. Sorenson Voltage Regulators provide just that — constant, controlled voltage at all times, even during 'peak load' periods when power supplies are subject to a wide degree of voltage error.

Our Technical Advisory Department will be pleased to discuss with you how Sorenson Voltage Regulators can solve your stabilised power problems.



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NOVEMBER, 1956

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Business EQUIPMENT SURVEY

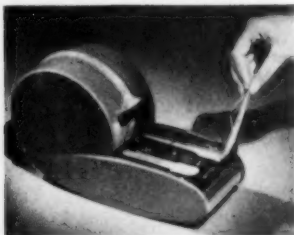
documents up to 2in. thick.

Sheets can be inserted or removed in a matter of seconds. The binder employs overlapping prongs, making it immune from spilled pages in the half open position. One depression of the lever brings it into the half-open writing position; a second depression and the binder opens fully. It is equipped with an A-Z black leather tab index.

Enquiry Ref. No. O.11/11

4-in-One Dispenser

PLANNED for time and cost saving is a dispenser which supplies carrier-handles for parcels,



Offers string-free tying

thereby eliminating the need for tying packages with string. The *Carry Pack '4-in-one'* is portable, and is manufactured of shell-moulded cast iron. It is finished in brown enamel.

Compact, strong and without sharp corners, the unit can be used to supply parcel carrier handles, gummed paper tapes and, with slight adjustment, self-adhesive cellulose tapes and *Jiffy tapes*.

A serrated cutting edge is provided and there are non-slip rubber feet. No power connections are necessary.

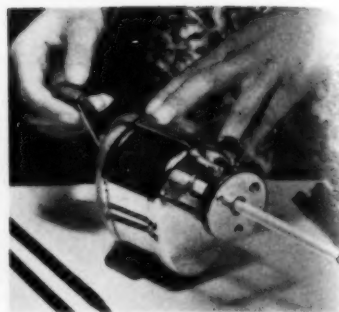
Enquiry Ref. No. O.11/12

Automatic Sharpener

NEW addition to the *Boston* range of pencil sharpeners has a self-feed mechanism accommodating pencils of any reasonable diameter.

A spring-loaded self-centring chuck holds the pencil and presses it against the cutters. But the degree of tension is such that sharpening does not continue after a point has been obtained—so there is no wastage.

The new sharpener is attractively



Accommodates most pencils

styled. Base and the carrier are of zinc-based alloy, finished in silver grey enamel, and the chip receptacle is of stainless steel.

Enquiry Ref. No. O.11/13

Hand-Operated Duplicator

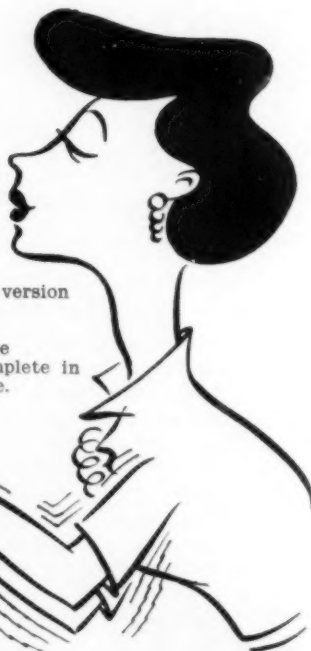
MANY new features are incorporated in the *D.10* spirit process duplicator, which offers a high standard of efficiency at reasonable cost. Among them are a magnetic drum which enables a block-out sheet, made from magnetic foil, to be secured quickly and firmly in position for substituting or deleting original copy without removing the master



Chosen by the world's fastest shorthand typist, this is the machine with a host of features exclusive to Royal—including "Magic" tabulator, carriage control and "Magic" margin.

The Diana is suitable for home or travel. Another version of this machine, called the "Administrator", is ideal for light office use.

The Royalite is indeed a Portable weighing under 10 lbs., complete in new zip-fastener carrying case.



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ALL PURPOSE CABINET

Precision made in steel, these ever-useful cabinets build into vertical or horizontal batteries. Stoved green or grey with chrome handles.

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KINGSBURY OFFICE EQUIPMENT LTD.
SLOUGH, BUCKS.



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paying for time it does not get. The systematic analysis of working time is a first step to increased production and lower costs.

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Dictating
Machine
becomes*

'Something in the City'

Thousands of offices both large and small have changed over to Stenorette 'S' dictation. Using the Stenorette 'S' is fundamentally the most simple, direct and economical method of reducing the time taken by everybody in dictation and transcription. It will boost an efficient secretary's output by as much as 40% and greatly ease the working day of any busy executive.

The average cost per installation is about 50 guineas.

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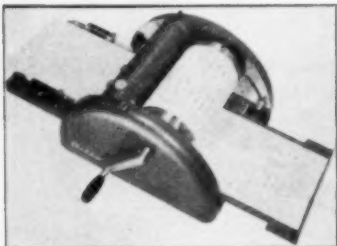
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(Electronics Division, Gas Purification & Chemical Co. Ltd.) GD282

Business EQUIPMENT SURVEY

sheets, and the single or multiple line-selection of items from a master-sheet.

Other features include a positive



Corrects without removing master

control which enables vertical margins to be adjusted in either direction to an accuracy of 1/160th of an inch; and a clearly-visible automatic counter, which records the number of sheets.

A companion model, the *D.11*, which operates electrically, contains all the features of the hand-operated machine.

Enquiry Ref. No. O.11/14

For Important People

THE *Document Group* of office furniture is designed, say the manufacturers, for 'the important papers of important people.' Of contemporary design, the units are conceived in terms of solids. For example, the solid slab of desk top and the block shape of the drawer cases are proportionally related.

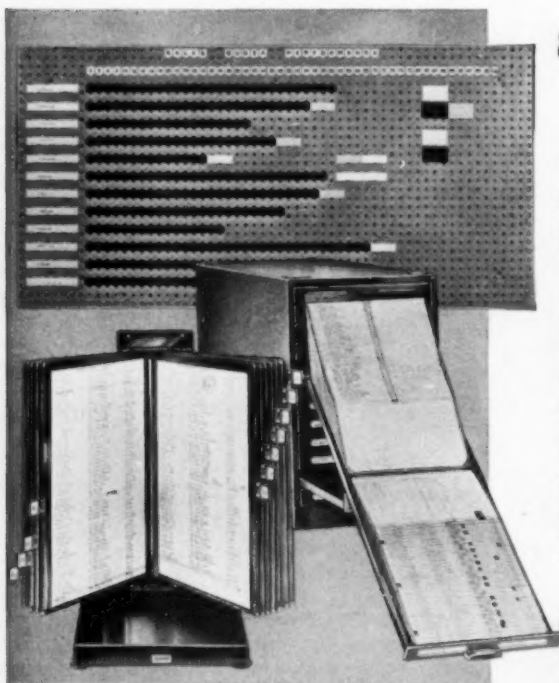
But leaving aside the aesthetics of the design, the range includes eminently practical features. Examples

are, an overhanging top to a desk for conferences, double-width drawers, and brass levelling tips on the feet. Another feature of the line, is hanging file.

Desk sizes vary considerably, depending on the model; an 84in. top is featured in the largest. They are available in several shades of walnut finish, with matching chairs executed in rich leather upholstery. Complementary units, such as bookcases, end tables, lamp tables and wall customer, are available.

Enquiry Ref. No. O.11/15

Designed for the modern executive this range of office furniture is planned utility without sacrificing comfort



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standard units and equipment—from simple conveying to a fully automatic, electronically controlled production system.

Whether your problem is large or small, simple or complex, makes no difference. The Flowmatic system is infinitely flexible. The savings it can produce are vital to the manufacturing industries of this country.

Before you turn this page, decide to 'phone or write—or ask your production engineer to do so—for an appointment to visit the FISHOLW CONVEYOR DEVELOPMENT CENTRE. It is at your disposal—with over twenty different working conveyor systems for demonstration—to design, discuss, develop and demonstrate your own individual requirements.

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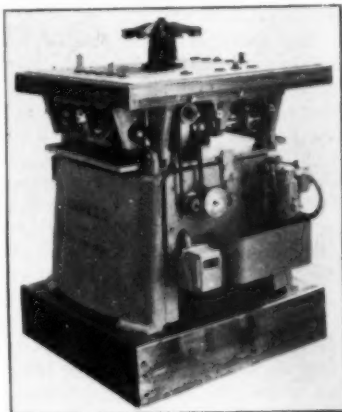
INDUSTRIAL EQUIPMENT

MACHINE TOOLS

Basic Automation

THE *Compass Mark VII* Automation Base is claimed to bring automation within the reach of many firms for whom it would not otherwise be an economic proposition. As well as shortening the time required for a specific tooling-up, it can quickly be re-adjusted for the needs of a new job.

The machine is intended to form



Saves designers' time

the foundation for an automatic or semi-automatic rotary indexing machine for carrying out a series of up to 14 operations simultaneously on an individual component, or for carrying out operations, including assembly, on a series of components. By equipping the base with the requisite tooling, a wide variety of operations may be performed, including milling, drilling, slotting, chamfering or cleaning.

No time is wasted on the indexing operation. With the *Compass*, it is possible to limit indexing time to one-eighth of the production cycle, compared with up to one-quarter of the cycle with most other types of mechanism.

As normally supplied, the indexing head will operate on any one of four basic settings—6, 8, 12, or 24 stop stations per revolution. Any other

number of stop stations per revolution can be provided if required. The base of the '*Compass*' holds a 1 h.p. electric motor.

It is claimed that the machine saves the time and work of a specialized designer on tooling. A less skilled designer can often be used, and work can be taken 'off the board' and into the toolroom much sooner.

Enquiry Ref. No. F.11/1

For Indexing Operations

IT is claimed that the two *Rota-Matic* drilling and tapping machines represent a marked advance on conventional machine design. They provide in one unit a built-in 18in. diameter rotary table, which indexes in sequence with either a vertically-mounted, hydraulically-operated multi-drilling machine column, or a controlled pitch, multi-tapping column.

The rotary table is electrically driven. By dial selection, it gives 30, 60 or 120 degree indexing, as required. This facilitates the handling of a wide variety of component sizes, and the performance of a variety of operations.

The provision of inter-changeable, multi-spindle heads and table plates allows switching from one machine cycle to another, without losing the



No more 'operator-idle time' is the makers' claim for this machine

rate of output which, normally, is obtainable only with single-purpose machines. The design of the multi-spindle heads permits the performance of numerous simultaneous operations to components at adjacent stations on the rotary table.

'Operator-idle' time is eliminated by the fact that loading and unloading of the parts is done at the front stations of the rotary table during the cutting cycle.

Enquiry Ref. No. F.11/2

VENTILATING

Air Sterilizer

ALTHOUGH designed for use in hospitals and laboratories, a new,



Kills germs, filters air

inexpensive automatic air sterilizer will also be of interest to manufacturing firms where dirt is disastrous or where humid or undesirable conditions are likely to cause trouble. Dust-free, sterilized air is available at the flick of a switch.

The equipment comprises two main parts: irradiation elements and a fan motor. The mechanism is guaranteed for life, while the irradiation elements can easily be replaced.

The fan, at one end of the unit, draws filtered, dust-free air over the irradiation elements, which attack the cell-structure of any micro-organisms present. The sterilized air is then delivered from the opposite end of the unit.

Enquiry Ref. No. F.11/3

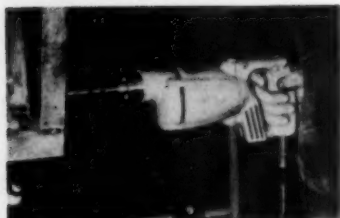
PORTABLE POWER TOOLS

Lower Drilling Costs

PERFORMANCE of a new range of industrial portable electric drills—translated into production drilling time—is claimed to represent an average saving of 5½ hours in every ten taken by most existing makes. The new series, ranging from ½in. to 1½in. capacity, is an extension of the same makers' range of ¼in. to ¾in. drills.

The inside of the switch handle

Business EQUIPMENT SURVEY



A new range

and the switch handle cover are covered with a permanently moulded layer of insulating material. For extra safety, there is a special arrangement for the incoming cable and earth wire.

The universal power units are continuously rated, and the drills are supplied with two power outputs. The $\frac{1}{4}$ in. and $\frac{1}{2}$ in. capacity models are powered by 0.275 b.h.p. motors; the $\frac{3}{8}$ in. and $\frac{1}{2}$ in. capacity models by 0.33 b.h.p. motors. They can be supplied to suit the following voltages: 100/110, 110/130, 150/160, 200/260 volts D.C., and single-phase A.C. 25/60 cycles. Machines of 32 and 50 volts are available to special order.

To eliminate breakage of brush gaps, (a common fault with the screwed-in type of gaps) the brushes are retained in place by insulation discs and spring rings located below the face of the motor casing. Each machine is supplied with a starting switch, a three-jaw keyed chuck, 10ft. of T.R.S. cable, and a spare pair of carbon brushes.

Enquiry Ref. No. F. 11/4

Small Rock Drill

CLAIMED to be the lightest motor rock drill on world markets, the *Cobra* weighs only 53lb. It is in-



Its power unit is built-in

tended for use where terrain and transport problems make the use of compressed air equipment impossible or uneconomic, or where work is carried out on a small scale over a long period. Maximum boring depth is 13ft.

The power unit is a single cylinder, two-stroke motor with accessories designed for operating in any position. It has a pull-wire for starting, which is said to be easy, even in below-zero temperatures.

The *Cobra* can be converted to a paving breaker by removing three small parts. Moreover, by using special apparatus supplied with the machine, its power can be used to grind its own drills on the site.

Enquiry Ref. No. F.11/5

Long-range Power

A NEW portable power point enables two portable electric tools



Takes power where you want it

or other appliances to be operated simultaneously and at some distance from a source of power. Thus it helps to overcome the problems of awkward job locations and remote supply points.

For factory or outdoor use, the makers claim, it saves time and money and eliminates any risk of damage to cable leads. It should prove useful to maintenance engineers, builders, electrical contractors, and for all engaged on repair and installation work.

The unit consists of a drum mounted on a stand, and a pair of built-in 13 amp., 3-pin, ring main, insulated

and shuttered flush sockets which are connected to a terminal block in the centre of the drum. The cable drum can accommodate 100 yds. of 23/.0076in., 90 yds. of 40/.0076in. or 60 yds. of 70/.0076, 3-core T.R.S. cable.

Enquiry Ref. No. F.11/6

PACKAGING

Taping Unit

WHAT is claimed to be the first British semi-automatic machine for sealing cylindrical containers with self-adhesive tape, is capable of 30 to 40 complete operations a minute. Called the *Pneutaper*, it will handle tins, glass jars, cardboard drums and plastic containers of heights from $\frac{1}{2}$ in. to 8 $\frac{3}{8}$ in. and diameters from 2 $\frac{1}{2}$ in. to 6 $\frac{1}{2}$ in.

The containers are placed on the machine turntable. When the start button is pressed, a clamp descends to push the lid on tightly and hold the tin firmly on the turntable. No careful positioning is needed. At the same time, the taping arm swings forward and the free end of the tape is attached to the tin. As the turntable rotates the tape is drawn on to the rotating container and pressed down by a wiper to ensure adhesion.

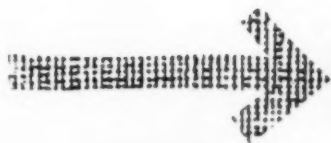
If a container with a beaded lid is being sealed, the wiper rolls the tape over the bead. Tear strips are bonded to the tape as they pass between rollers on the way to the taping arm.

When the turntable has turned through 365 degrees, a blade severs the tape leaving a short length of tear strip protruding. The clamp rises and the operator moves the container off the turntable by pushing it with the next. Adjustments for



Presses lid down, binds tightly

BUSINESS



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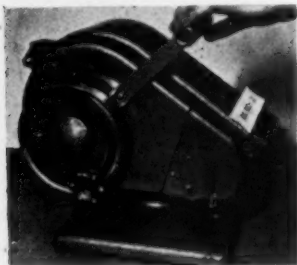
Business EQUIPMENT SURVEY

different container heights take only 30 seconds, and for different diameters the tape overlap can be re-set with an Allen key.

Enquiry Ref No. F.11/7.

Versatile Tape Dispensers

NOW available in Great Britain is a range of American tape dis-



For long or short 'runs' ■■■■

pensing machines. The *Big Inch 40* will dispense most types of tape, and will slit fimatic or paper tape from a 2in. or 4in. roll in two, three or four widths.

In addition to dispensing up to four widths of tape at once, this machine offers the operator three

different "pulls." The longest pull requires the least effort, and this is therefore the most suitable for long stretches of work. The shortest pull entails maximum effort, but enables the tape to be dispensed much more quickly; therefore it is most suited to short periods of high-rate work.

The *Big Inch 20* (illustrated) will dispense and slit all tapes from a 2-in. roll in two, three or four widths. Here, the operator is offered two working positions: in one case, the handle is designed for a standing operator, and in the other for a seated operator.

There are three other models. Altogether, the range caters for most lengths of tapes to be dispensed, from 21in. to 1½in., and for all widths of tape from 4in. to ¾in.

Enquiry Ref. No. F.11/8

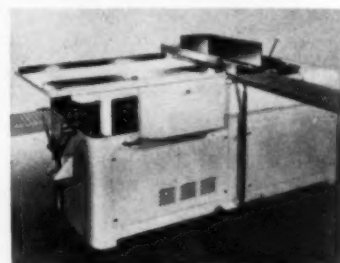
Cheaper Packing

PARCELLING is being increasingly used in despatch departments because of its economy compared with cartons, crates, and other containers. It adds much less to the weight of a product, cuts

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The machine occupies a floor area of only about 7ft. by 3ft. and is 3ft.



Goods are fed in at right, and leave, parcellled, at left

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The "Sherpa"-11 Model is illustrated, adapted to perform only one of its many valuable functions in industry.

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Oh, yes, sir, I said they are really strong, even Mr. McTavish of the Accounts Department thinks they're very good value for £5.19.0, including purchase tax. Yes, sir, I will order another six *Sitting Pretty* chairs.

Sitting Pretty Typist' Chairs are made and guaranteed by Metchair Ltd.

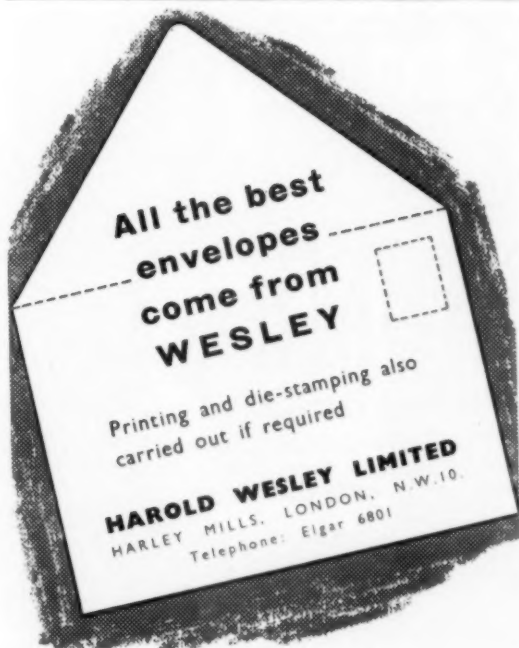
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Business EQUIPMENT SURVEY

high. The standard model wraps parcels up to 17in. by 12in. by 7in. deep. Each machine is adjustable. Once set for any parcel size, the flexible hydraulic operation, with built-in pump driven by an electric motor, enables variations of up to $\frac{1}{4}$ in. to be handled without resetting.

No damage is caused to the machine if larger parcels are accidentally fed into it. Nor can the packer sustain injury by having a hand caught.

Output generally depends on the marshalling time achieved by the packer.

Enquiry Ref. No. F.11/9

GENERAL

Look—No Hands !

A NEW two-handed safety control is intended for use wherever it is essential that both hands of an operator are clear of the machine before he operates a pneumatic device, such as a press or guillotine. A safety-control pilot controls a pressure-operated spring return valve, which in turn controls a cylinder which may be used directly as a press, or as a means of situating a

mechanical or hydraulic press.

The safety control will supply pilot pressure to the operating valve only if the two push buttons are pressed within half a second of each other. No signal will be given if only one of the buttons is continuously depressed—or, is indeed under any



Guillotine safety control

circumstances other than those prescribed. With the new system it is not possible to obtain one cycle, or one part of a cycle due to incorrect operating technique.

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Enquiry Ref No. F. 11/10

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SPECIALLY made for thermoplastic tiles, *Glint*, a new emulsion polish, cleans and polishes the floor in the same operation, producing an anti-slip surface. For initial application, the floor has to be cleaned, and two coatings applied; thereafter, maintenance calls for touching up or applying one coat when required.

Scuff marks can be erased with a soft cloth. Normally, black rubber marks can be removed by rubbing with a soft cloth soaked in polish.

Enquiry Ref. No. F.11/11

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Enquiry Ref. No. F.11/12

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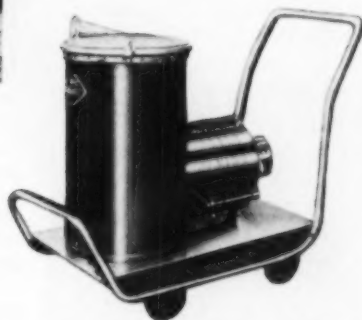


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Business EQUIPMENT SURVEY

CANTEEN AND WELFARE

Pushbutton Coffee

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It works with powdered ingredients and a thermostatically controlled six-gallon water heater sends four jets of hot water into the cup to stir up the contents. It can also be adapted to serve hot chocolate or soups.



Earns money for you

The machines are available through an operating company that will install, maintain and revictual them, also paying the site owner on a percentage basis. Thus firms can save themselves employee time and derive extra income from such an arrangement.

Enquiry Ref. No. C.11/1

Mobile Servery

DESIGNED to cater for between 50 and 60 persons, the new *Brownson* mobile servery keeps crockery and food warm while conveying it from kitchen to dining room, or prior to serving in the dining room.

A special dispenser eliminates bending down and searching for plates—they pop up at counter level when required. The heating is electrical, but good insulation ensures that heat is kept in for a considerable period of time after the mains are disconnected.



Plates pop up

The lower section contains a drop-down door and is meant for salads, cold foods, etc.

Enquiry Ref. No. C.11/2

Effortless Mixing

MEDIUM-SIZED establishments have been kept in mind in the design of the *Peerless Q30* pedestal mixing machine. With a bowl capacity of 30 U.S. quarts, the mixing range is from 1-6lb. sponge to 18lb. flour (for bread).

The following attachments are available: meat mincer, combined vegetable slicer, chipper, bread crumb, soup strainer and oil dropper.

Enquiry Ref. No. C.11/3

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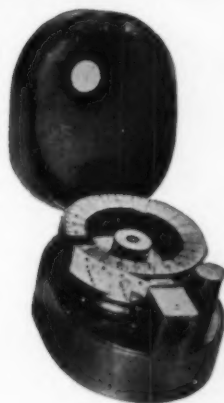
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NOVEMBER, 1956

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OVERSEAS TRADE FAIRS

continued from page 90

Italians are building up tremendous prestige value for their products by styling for the market and by using modern marketing and publicity methods.

"The days of direct selling at fairs are over. The new role of the trade fair is to make people conscious of new technical progress in products—to create and build up a demand which must be taken care of by the sales organizations when the fair closes."

Getting Better Results

What are British firms and associations doing at other overseas trade fairs?

In September, the Scientific Instrument Manufacturers' Association of Great Britain, in collaboration with the Board of Trade, took the products of 34 of its members to the St. Eriks fair. Their stand covered 5,000 sq. ft., and was entitled British Scientific Instruments.

On the official British stand at the International Autumn Fair in Vienna in September, the Council of Industrial Design put on a display with the theme—"British design, past and present."

At the same fair, the Birmingham Exchange and Engineering Centre had a stand with the accent on 'information.' The number of enquiries which were received exceeded all expectations.

At the Damascus Fair, Pye Ltd. had a television studio and transmitter and broadcast programmes throughout the fair, the British Radio Equipment Manufacturers' Association had a composite stand featuring the radios and television sets of seven manufacturers, and there was a Linotype composing machine setting up Arabic type. In all, more than 100 firms were represented in the British pavilion. British participation was on a larger scale than that of any other country.

Here are brief case histories showing how two small firms exhibit at overseas trade fairs, and how one

large group have found a method of lowering exhibiting costs.

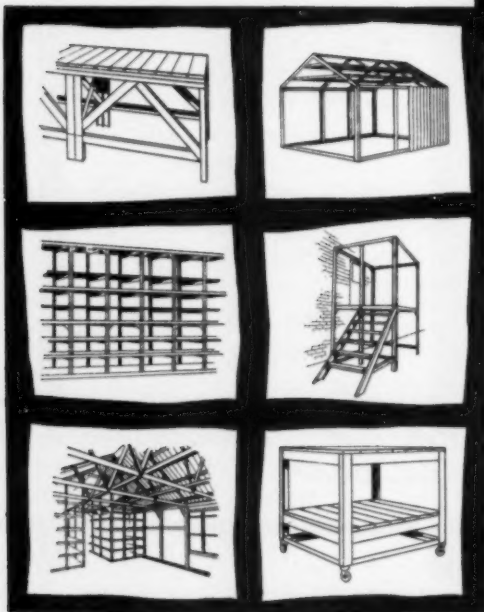
The Kaymet Company. The trade fairs policy of the Kaymet Co. manufacturers of anodized domestic ware, is simple: "One exhibition per country per year." This may seem extravagant for a firm with only 200 workers—but the fact that 80 per cent of their products are exported shows that it must pay. The company have agents all over the world.

The company exhibits every year at Brussels, Cologne, Frankfurt, Hanover, Lyons, Milan, Paris and Utrecht, and also at three of America's principal 'gift shows.' They also exhibited at Chicago in 1950, at Salonica in 1953, at Toronto, Izmir, Bari, and Damascus in 1954, and at the British Trade Fairs in Baghdad in 1954 and in Copenhagen in 1955.

They tried Brussels—their first overseas fair—in 1948 because their managing director, Sydney Kahn, had visited the fair the previous year, and was impressed by the marketing possibilities there. Since that ex-

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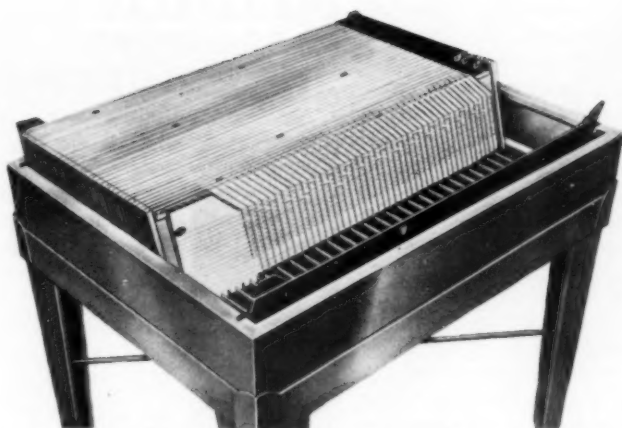
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(1/5 a foot; less for large quantities) Twelve 8 ft. lengths 3" x 1 1/2" x 14g. with 75 cadmium-plated nuts and bolts.

Stonehouse **HD** slotted angle

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VISIPOST interests us. Please send full details without obligation.

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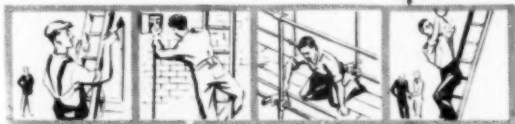
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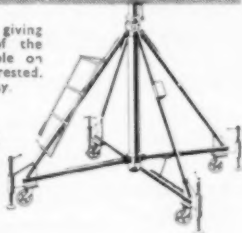
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NOVEMBER, 1956

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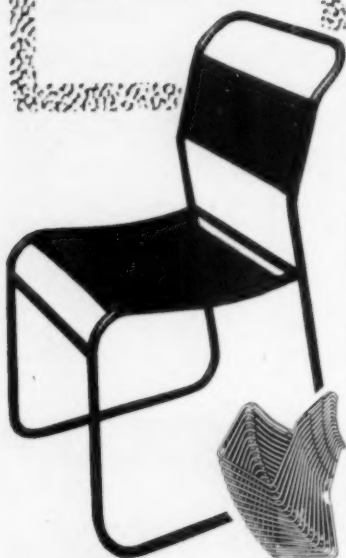
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15 chairs, nesting one upon another, can be quickly and easily stacked in about 5 square feet of floor-space.

The REDRO NESTING CHAIR is one of the lowest-priced chairs on the market, and is available in a choice of 12 colours in easy-to-clean stove enamel, or in a chromium-plated finish.



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REDRO LTD.

(Dept. 28), Cogan Street, Hull

186

hibition the company have appointed 65 overseas agents, in addition to five which they already had for their pre-war light engineering products.

Mr. Kahn visits all fairs, and is personally responsible for arranging, with his agents, for the fabrication of the stand, its position, the type of product to be shown, and so forth.

By visiting the fairs himself, he believes that he keeps the markets alive, meets new customers, keeps close contact with existing customers, and most important of all in his opinion, maintains tremendous prestige value for his company's products. He has no time for manufacturers who are content to sit on their own doorsteps.

The Brush Group Limited, export about 75 per cent of their products and take part in local, national and international exhibitions all over the world.

Several years ago, they realized that overseas fairs were becoming more numerous, more complicated and more expensive year by year, and that the cost of the traditional exhibition stand was responsible for a large part of the expenses involved. The company felt that if they could reduce the cost of their stands, they could stretch their exhibition budget to take in more fairs.

So G. E. Russell, the group's exhibition engineer, has evolved an exhibition stand unit which is solving many problems. Savings can be achieved of as much as 50 per cent of the cost of a comparable stand designed and constructed by traditional methods. The unit is a prefabricated, easily-transported light metal structure which may be used singly, or in multiples, on sites of all shapes and from 30 to 60 square metres in area.

Because of the savings in cost, the group can now enter more fairs without increasing their fair expenditure; the units are stored by their overseas representatives in readiness for fairs in their territories; one experienced and one unskilled man are the only erectors necessary; there are no nuts and bolts to lose or replace; the units can be used in an infinite variety of

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BUSINESS

combinations; and each unit may be shipped complete in one packing.

The prototype stand, of one unit only, was first used by the group at the Poznan International Fair in 1955. With the help of a casual labourer, the stand was erected in three and a half hours. The result was a colourful, dignified stand of moderate size. The same stand was dismantled, packed and despatched to cover a site of a different area at the Plovdiv Fair. It was also used at last year's Dublin Spring Fair and the British Trade Fair at Copenhagen.

In January this year, the group had three more units built, and these have since been used at Leipzig, Poznan, Plovdiv and Damascus.

Burdin and Baker and Company. One of the products of this small company is a permanent high-frequency converter unit—a small plastic-covered device which, when placed in the electrical circuit of an engine, gives a stronger spark, and is said to reduce petrol consumption.

In permanent use on the Continent, this company have a mobile demonstration unit, equipped with working models, which travels from fair to fair. It is staffed by one demonstrator/driver, who speaks English, Flemish, French, German and Italian. At present, moreover, the company have a second unit on the continent, but its visit is temporary.

The 'resident' unit was at the Ghent Fair this year, but BUSINESS was unable to interview the demonstrator because of the vast crowds which surrounded him throughout the day.

This year's itinerary has included Charleroi, Brussels, Marseilles, Milan and Switzerland. Between fairs, demonstrations are given at local markets and exhibitions.

The unit has been on the Continent for three years. High rates of import duty make the converter fairly expensive, and the number which can be exported is limited. However, the idea behind putting the unit on the Continent has been to get the product known, in preparation for a grand sales slam in 1957.

NOVEMBER, 1956



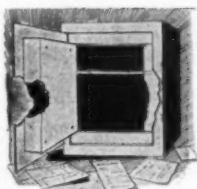
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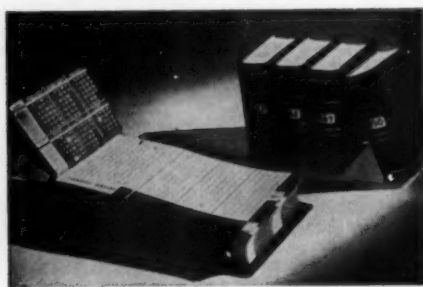
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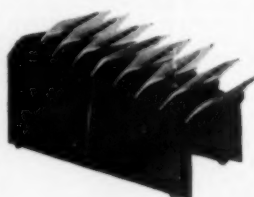
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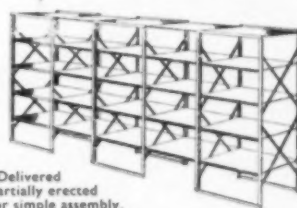
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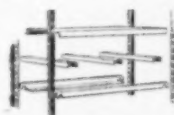


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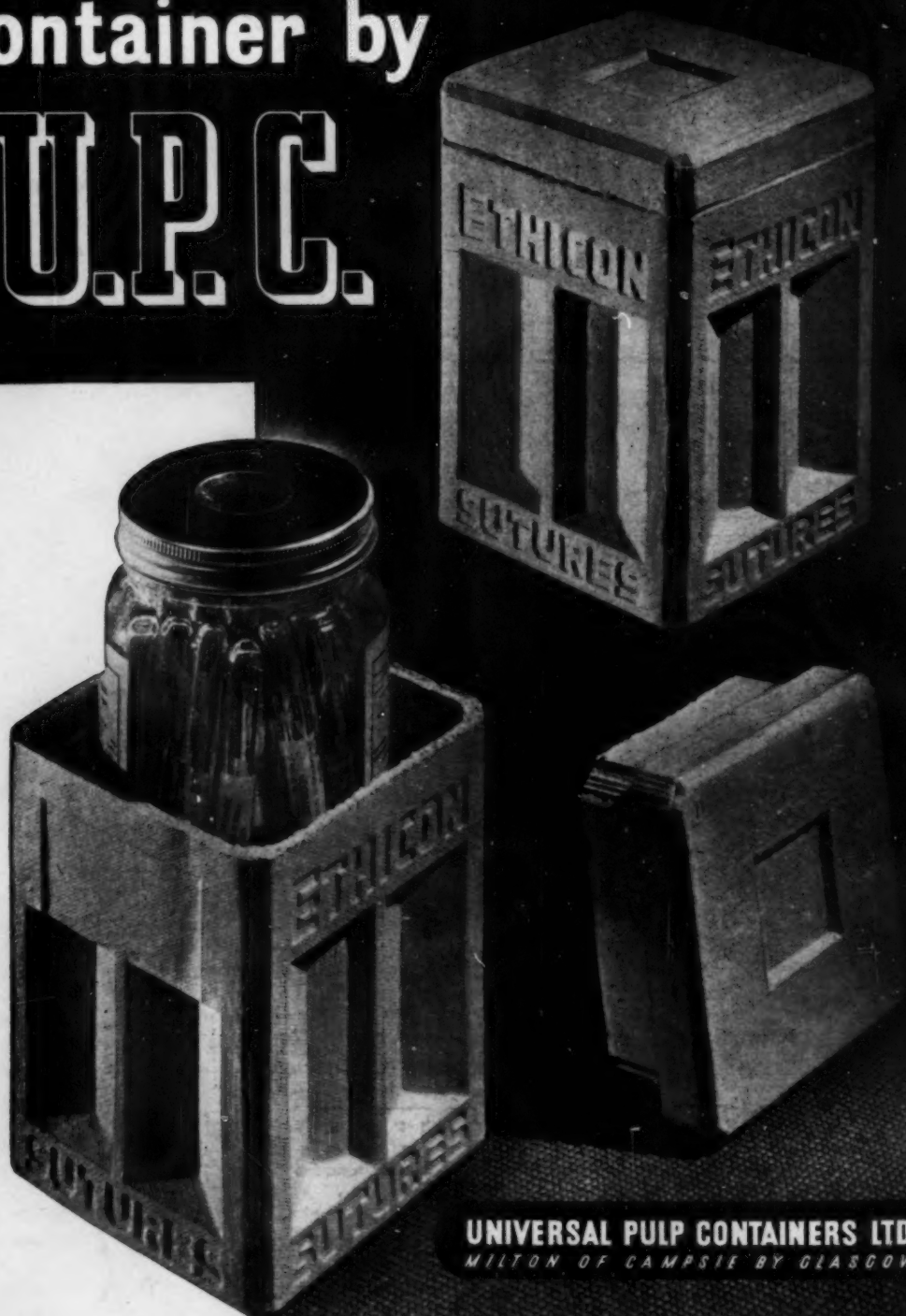
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